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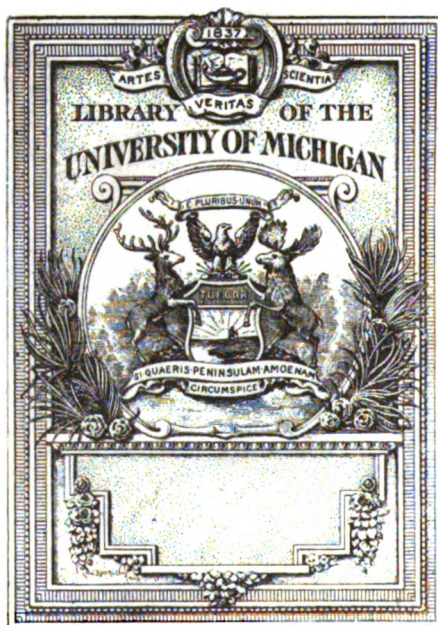
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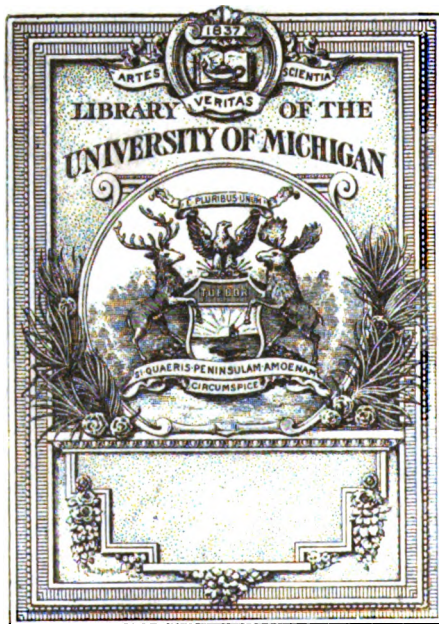
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THE
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THE TARIFF ACT OF 1913

SUMMARY

The principle of a "competitive tariff," 1. — "Legitimate" industries, 3. — The Tariff Board and the methods of revision, 5. — Sugar duty lowered at once, to be abolished after three years, 8. — Wool free, 11; lower *ad valorem* rate on woollens, 13. — The probable consequences, 15. — Moderate rates on cottons, 17. — Comparatively high rates retained on silks, 20. — Other changes: pottery (23), iron and steel (24), free list extended (25). — Administrative sections strengthened, to prevent evasion of *ad valorem* rates, 26. — Many reductions will be only of nominal effect, 28. — What the future may bring, 29.

THE Tariff Act of 1913 is described both by friends and enemies as a radical measure. It is said not only to lower duties, but to introduce new methods of assessing them and to rest upon principles essentially different. How far can it be said to make sweeping changes?

The new principle of which most has been made by the advocates of the act is that of a "competitive tariff." In 1909, the Republicans had professed to act on quite a different principle, — that of equalizing cost of production. These two have been set forth by both sides as starting from opposite poles in the

tariff controversy. And yet, impartially considered, and assuming consistent application, they would seem to come to very much the same thing. The notion underlying equalization of cost of production is that of enabling the domestic producer to compete on even terms with the foreign producer. This would seem to be essentially the notion of a "competitive tariff." It is true that in the statements of the principle of equalization, something was always said of a "reasonable profit" to the domestic producer; whereas the Democrats, when explaining what was meant by a "competitive tariff," poohpoohed reasonable profits, and intimated that the competition should be such as to cut down domestic profits, and perhaps wipe out some of them. Yet a reasonable profit is obviously to be considered among the normal expenses of production, even tho it be not so reckoned under the usual methods of cost accounting. A "competitive tariff" would seem to be one under which domestic and foreign producers could compete in such manner that both should get reasonable profits. Fairly and consistently applied, therefore, the principle of a competitive tariff cannot be said to differ in essentials from that of a tariff equalizing cost of production.

In discussing the Tariff Act of 1909, I took occasion to point out the obvious fact that universal equalization of cost of production means universal application of protection.¹ However high cost of production may be in the United States, duties must be made high enough, on this principle, to offset the difference. Anything and everything is to be made at home. The principle of a "competitive tariff" perhaps does not go quite so far, especially if applied with a less generous

¹ In this Journal for November, 1909; cf. also my *Tariff History of the United States*, ed. of 1910, p. 363.

reckoning of the domestic producer's expenses. None the less, under that principle also duties should be made high on commodities produced in the United States under disadvantageous conditions and therefore at heavy expense. The notion of the "competitive tariff" is no less inconsistent with the principle of free trade than is the rival one. Under consistent free trade, the competition between the foreign producer and the domestic producer would not be a weighted one, with handicaps in favor of the domestic producer; it would be quite an even one. The principle of a "competitive tariff" would seem to mean merely that protection should not be unnecessarily high, yet high enough to ensure the maintenance of domestic production.

Another phrase much used in the debates of the current session was that of a "legitimate" industry. No legitimate industry, it was said, would be endangered. What is an illegitimate industry? One that cannot maintain itself without some sort of legislative prop? or one that has lost the right to a prop because of the methods by which its promoters have sought to influence legislation in the past? or one that has secured unusual profits through monopoly or semi-monopoly? Perhaps legitimate industries are those which, under protection, have been securing no more than normal or reasonable profits. Perhaps the phrase refers to industries which could hold their own under a comparatively moderate scale of duties, but rules out industries depending upon a range of duties distinctly high. Or it may mean that vested industries should not be disturbed,—industries established on the supposition that the policy of protection, maintained for so many years, would be continued indefinitely. Hardly any intimation was given that an industry was illegiti-

mate merely because dependent on protection. Neither phrase, — “legitimate” industries nor “competitive” industries, — was used in such a way as to commit its advocates to the abolition of protection or to a consistent application of free trade.

All such catchwords, however, are less important in their strict and consistent meaning than in what they imply to the average voter. Their implications are by no means the same. They suggest very different points of view. The Republicans, when they professed to be desirous of merely equalizing costs of production, made it clear that they meant duties to be kept amply high enough to leave the domestic producer in command of the situation. The Democrats, when they spoke of competition, meant that duties should be kept below the point of prohibition. The Republicans wished to make sure of keeping imports out; the Democrats wished to make sure of letting some in. And further, the Democrats, however, they might speak of competitive rates and “legitimate” industries, reserved the alternative, where political or economic expediency prompted it, of throwing these principles to the winds and of fixing duties quite without regard to competition or legitimacy.

None the less, there was occasional discussion that implied the orthodox free trade reasoning. “Legitimate” industries were sometimes described as those economically legitimate; that is, such as could hold their own without protection. It would follow that every industry dependent on protection was illegitimate. From still another point of view the illegitimacy of protection as such was implied. Mr. Underwood presented, in a widely circulated speech,¹ some esti-

¹ The speech was made in the House, April 23, 1913, and widely circulated in pamphlet form.

mates of the taxes which the consumer paid under the tariff, and reckoned among these the amounts paid in the form of higher prices on commodities produced at home. Calculations of this kind call for the greatest caution. There are but few commodities, — sugar and wool might be instanced, — for which it can be figured out with any accuracy how great is the rise in price which the duties cause, and how great is the total burden on the consumer if both domestic output and imports be considered. In most cases figures of this sort rest on guess work. Such, for example, is the case with calculations of the total burden from the duties on cottons, silks, woollens, glass ware, manufactures of iron. This much, however, is to be said: one who parades such figures uses the essential argument for free trade. He can hardly admit the stock protectionist pleas, under which it is not admitted for a moment that there is a real tax on the consumer, still less a net loss to him, because of higher prices of commodities produced within the country. One who argues after this fashion would seem not to be able to use the principle of a "competitive tariff," which assumes a partition of the market between the domestic producer and the foreign; or at the most he can use it only as a sort of stopgap, a rough and ready expedient for keeping duties within the bounds set by regard for vested interests.

Perhaps no topic brought into clearer light the mode in which the two parties approached the tariff question than that of the expediency of maintaining a tariff board. Unless the principle of free trade is to be fully and consistently applied, there is ground for detailed inquiry on the facts of each particular industry. Under free trade, such inquiry is superfluous. All that needs then to be done is to treat the imported and domestic

supply on the same terms: either tax both at the same rate, or free both from taxes, and let the results of completely equal competition work themselves out. But this drastic treatment no one proposes, at least for immediate general application. Now if the basis of adjustment is to be that of making conditions competitive, or that of equalizing cost, or that of regarding most established industries as legitimate, — on any such basis the question in each particular case must arise what precise rate of duty brings about the desired adjustment. Hence the Republicans had much to say about the need of an expert board of investigators and the recklessness of disturbing the foundations of industry without painstaking examination. That the Ways and Means Committee of the House, or the Finance Committee of the Senate, was not in position to make such investigation was now freely admitted by the Republicans. They did not deny their own sins of the past in this regard, but urged improvement for the present and the future. There was much complaint that the Democratic Ways and Means Committee had proceeded roughshod, arrived at duties by guess work, and fixed rates on materials and half finished commodities that were inconsistent with rates upon finished or nearly finished commodities. The new tariff, it was said, was not a "scientific" tariff.

In this there was not a little truth. The duties were, in fact, settled in more or less rough and ready fashion. Doubtless the exact rates in many cases were the results of compromise, not of any close calculation or accurate information. Beyond question the same sort of thing had gone on in previous years, and even more flagrantly. But the Republicans could maintain that since 1909 the Tariff Board had

been at work, and had shown the possibility of more deliberate and discriminating procedure. And yet the Democrats could not be seriously expected to pay much attention to this demand for prolonged preparation and expert examination. In the first place, the Tariff Board was a Republican device. However excellent its work, — and no competent observer will deny that it has thrown much needed light on all the topics which it has investigated, — a flavor of partisanship remained. The very fact of its being a Republican product caused the Democrats to turn their backs on it. More important, however, was the circumstance that detailed and elaborate inquiry necessarily meant delay. The Democrats were not to be blamed for believing that, however unbiased the members of the Tariff Board may have been, and however excellent their work, the real object of the Republican leaders who championed the Board was to stave off early action and perhaps give a chance for the political situation once more to take a turn in their favor. Postponement of action by the Democrats until the results of an expert board's inquiries should be at hand was to give up their golden opportunity. They had control for the first time in many years of all branches of the national legislature, — not only the House and the Presidency, but even the Senate. Their time had come, and to have waited would have been politically suicidal.¹

¹ Something which may possibly be equivalent to the work of the Tariff Board has been provided in one of the closing paragraphs of the Act (Section IV, Paragraph 8) under which "The President shall cause to be ascertained each year, the amount of imports and exports of the articles enumerated in the various paragraphs in section one of this Act and cause an estimate to be made of the amount of the domestic production and consumption of said articles, and where it is ascertained that the imports under any paragraph amount to less than 5 per centum of the domestic consumption of the articles enumerated he shall advise the Congress as to the facts and his conclusions by special message." The notion of a competitive tariff seems to underlie the provision. Nothing is said about cost of production, which played so large a part in the instructions to the old Tariff Board, and in its investigations.

Among the changes in duties made in the act of 1913 by far the most conspicuous and important are those on sugar and wool. Both are admitted free; wool at once, and sugar after an interval of three years.

The duty on sugar under the Acts of 1897 and 1909 had been one and two-thirds cents (on the grade most largely imported and commonly taken as the standard). The duty becomes one cent a pound, until May 1, 1916; after that date, all sugar is to be admitted free. The transitional duty of one cent a pound remains subject to the reduction of 20 per cent for sugar from Cuba, whence most of the imports have come in the past, and whence virtually all of them are likely to come in the near future. There are some clear advantages in the course thus taken, and more particularly in the three-year interim.

In the first place, there is a fiscal advantage in postponing complete remission. The sugar duty contributes heavily to the customs revenue. The income tax, which is expected to make up for loss in the customs revenue, will almost certainly require time for working out its full yield. The temporary retention of the sugar duty eases the process of fiscal rearrangement.

Second, the sugar producers are given time for re-adjustment to new conditions. The production of raw sugar, whether cane or beet, is in these modern days a manufacturing industry almost as much as an extractive one. The abolition of the sugar duty presents squarely the problem of vested interests in an industry where there is large investment of fixed capital. In all such cases there is good ground for postponed reductions. But it is to be admitted also that there is likely to remain a lingering doubt whether such a program of reduction will be carried out to the bitter end, and hence some uncertainty whether the transi-

tion will really be prepared for. This is the strong argument against the plan, sometimes advocated as the best for dealing with duties deemed excessive, of spreading all reductions over a series of years. There is always a question whether the political situation will not shift in the meanwhile. Even during the last year or two, when it has been obvious to every unprejudiced observer that a considerable pruning of the protective system was inevitable, the interested producers have continued to manoeuvre against the inevitable, trying to persuade themselves that the changes could be prevented or postponed. The same unwillingness to face squarely an unwelcome prospect may appear during the three-year period allowed before sugar becomes free. It may be thought that the Democrats will lose their majority in Congress at the elections of 1914; still more, that they will lose everything in 1916. The tactics of the protectionists have suggested in many ways that they hope for an early return of the good old days. In this frame of mind, deliberate accommodation to the new tariff conditions is hardly to be expected; and if the present program really is carried out to the bitter end, the sugar producers may be as ill prepared for it in 1916 as they are now.

The strong tactical and political argument for free sugar is that thereby the cost of living will be reduced. Few economists would subscribe to the statement, often made by the Democrats and embodied in their platform, that the tariff system is the main cause of that general rise in prices which people describe as the high cost of living. But here is one commodity which is universally consumed, is made dearer by the existing duty, and is tolerably certain to become cheaper after the remission of duties. It is true that untoward crop conditions may disguise the effect in

1916. It is conceivable that then the abolition of the duty will not cause sugar to be cheaper, but will simply prevent it from becoming dearer. No intelligent person will think that, so far as the effect of the tariff is concerned, this would be an important difference. But the enormous majority of persons think about these matters with singular lack of intelligence; and some chances are taken as regards the impression made on the mass of the community by the free admission of sugar when the final change is postponed for three years.

It is difficult to see how anything can be said in favor of free sugar on the principle of a competitive tariff, or on that of attacking only the "illegitimate" industries. The imports of sugar have always been large. Certainly so far as raw sugar is concerned, there has been steady competition between the domestic producers, as well as between them and the foreign producers. The production of cane sugar and beet sugar within the United States has been as legitimate as can be the case with any highly protected industry. Possibly the circumstance that the sugar planters of Hawaii and Porto Rico, and in less degree those of Cuba and the Philippines, had been among the beneficiaries from the duty, may have promoted an unrelenting attitude. Yet in the main the abolition of the duty, while tactically justified as a move toward lowering the cost of living, can be defended with consistency only on the ground that a cheap supply from abroad is better than a dear supply at home. This is the gist of the principle of free trade.

More considerable economic effects are likely to follow from free sugar than from any other change in the act. Tho the producers in Louisiana and in the beet sugar states have exaggerated their dependence

on protection,—as is habitually done by domestic producers when making pleas for duties,—it would seem that in fact most of them are not able to meet foreign competition on equal terms. Both cane and beet sugar makers have been prosperous of late years; so much is indicated by the increase in their output. Some among them may be able to hold their own even under free sugar. This is more particularly probable for some beet sugar districts advantageously placed in the West. So in the case of Hawaiian sugar: it is to be expected that the output will diminish, yet not that sugar planting will be given up. Hawaii, and Porto Rico as well, will be hard hit, but hardly compelled to give up completely. Cuba and Java will probably send in much larger imports. One may be distrustful of the predictions concerning the extent of these changes, but considerable they are likely to be.¹

What has been said of free sugar holds for the complete and immediate abolition of the duty on wool. In their tariff bills of 1911 and 1912, the Democrats had not ventured to go so far. It had been proposed to leave the duty on wool at 20 per cent. Through the influence of President Wilson, the bolder step is taken of admitting it free once for all. It will be remembered that this had been the one radical change made in the ill-starred tariff act of 1894. In taking the same unflinching step at the present time, President Wilson showed the unhesitating courage which has won the respect of

¹ On the general sugar situation,—one of the most interesting phases of our tariff history during the last generation,—I refer the reader to my article in the *Atlantic Monthly*, March, 1908, on "Sugar: a Lesson on Reciprocity and the Tariff"; and on beet sugar, to one in this *Journal*, for February, 1912, on "Beet Sugar and the Tariff." On this latter topic, see also Dr. R. G. Blakey's careful monograph, "The United States Beet Sugar Industry and the Tariff," *Columbia University Studies*, No. 119 (1912); and two articles by Dr. Blakey, on "Beet Sugar and the Tariff," *Journal of Political Economy*, June, 1913, and "The Proposed Sugar Tariff," *Political Science Quarterly*, June, 1912.

his opponents no less than of his friends. It happened that the juncture was favorable for the change. A sweeping reduction, perhaps amounting to complete abolition, had been on the cards for so many months that the market had adjusted itself to the prospect, and the price of wool had been for some time on a free wool basis.

Here again none of the current formulas were applicable in justification of so sweeping a change, — neither those of the Democrats nor those of the Republicans. The Republican formula about equalizing cost of production had indeed been shown to be quite impossible of application. The excellent report of the Tariff Board had made it clear that the expense of producing wool under the ordinary farming conditions was impossible of any precise demarcation, and that even for wool produced under ranching conditions cost varied so much in different regions as to make the equalization formula useless. The principle of a competitive tariff was quite as unserviceable. The wool duty had for many years been competitive; that is, the imports had been continuous, and had tended to grow. So far as revenue was concerned, complete abolition unmistakably meant a fiscal loss. Nor could it be said that wool growing was an illegitimate industry, except from the free trader's point of view. Here again, a clear decision seems to have been made against even the veiled and apologetic arguments for protection. I need not repeat my often stated conviction that the decision was wise. Those arguments for protection which have weight with trained thinkers, — young industries, national independence, and the like, — can have no application in this case. The wool duty cannot be defended except from the most extreme protectionist point of view.

The wish to reduce the cost of living doubtless had its effect in bringing about free wool, as it had in securing the decision for ultimate free sugar. Woollen clothing is dearer in the United States than in other countries. Cheaper wool will lessen the difference, and will bring somewhat cheaper clothing. The change is not likely to be as considerable or as conspicuous as in the case of sugar. On an average suit of men's clothes the decline in price, due to free wool, will be not far from one dollar. This is not far reaching, but it is something; and every little tells. Perhaps the Democrats cannily reckoned that the retail clothing dealers would serve their party's turn by parading and magnifying the effect of free wool; they are not unlikely to put this forth as the occasion of those extraordinary bargains which the confiding public never discovers to be other than extraordinary.

The necessary corollary of free wool is the abolition of the compensating (specific) duties upon woollen goods. They go by the board, as they did in 1894. Only the *ad valorem* duties upon woollen goods are retained; and these are substantially reduced. It will be recalled that the *ad valorem* duties of 1897 and 1909 had been upon most goods 50 and 55 per cent. In 1894, the duty on woolens had been left, on the more important classes of goods, as high as 50 per cent. On almost all of the woollen fabrics concerning which controversy has been waged the rate now goes down to 35 per cent. Yarns are dutiable at 20 per cent, tops at 15 per cent. The rates on carpets range from 20 to 35 per cent. The 35 per cent rate now established is that of the original compensating act of 1867.

Nominally, the reduction in protection on woolens is in the reduced *ad valorem* rate only. In fact, however, the abolition of the specific compensating duties means

a further reduction of protection. As is well-known to every one who has given attention to the complexities of schedule K, these compensating duties had given not a little concealed protection. They had been more than enough to accomplish their nominal object, that of simply offsetting the influence of the wool duty in raising the domestic price of wool. This additional concealed protection had not been in the main the consequence, as was so often charged, of deliberate plotting or manipulation. It had been the result of gradual and in some respects unexpected changes in the development of the industry. Whatever the process by which the result had been brought about, the duties on woollen goods, reckoning together both the specific compensating duty and the supposedly protective *ad valorem* duty, had become extremely high. They had ranged as high as 100 per cent on the few goods that continued to be imported, and were equivalent to 140 or 150 per cent on most foreign goods, which naturally did not continue to be imported in face of these prohibitive rates.

Here is a great decline in rates, — from 100 per cent or more to 35 per cent or less, — leading the public to expect a marked fall in prices. In fact, it is far from clear how considerable will be the change in prices. It is quite certain that the change will not be so great as it would be if, — as is so often assumed in popular discussion, — every cut in duty necessarily brought a corresponding change in price. The duties on wools, to repeat, had been in the main prohibitory. Domestic wools had the field to themselves, and competition among the domestic makers kept the prices of most goods within the range fixed by expenses of production within the country. Those expenses of production were unquestionably made higher because the raw

material, wool, was raised in price by the duty. In what degree the strictly manufacturing expenses also were higher than in foreign countries is extremely difficult to make out. If the 35 per cent duty simply offsets higher manufacturing expenses within the country, the change made in the woolen duties will prove but nominal, substituting an effective protecting duty for a needlessly high and prohibitory one.

It would seem that in this case the Democrats strove to apply the competitive principle. The inquiries of the defunct Tariff Board, and some further calculations based upon them, indicated that a duty of 35 per cent would correspond roughly to the difference in expenses of production between American and foreign manufacturers.¹ But the correspondence is only a rough one. On some classes of goods the 35 per cent duty is more than enough to enable the domestic manufacturer to hold his own; other classes of goods will be imported to the displacement of the American product. Predictions of wide-spread diasaster from any such change, such as have been freely made for the last few years will not be fulfilled. No doubt in many cases they have been made in good faith, engendered by the extraordinary exaggeration of the necessity of high protective duties. But usually they have been more or less bluff; those who make them have been concerned chiefly with warding off or minimizing unwelcome changes. The probabilities seem to be that under the 35 per cent rate the greater part of the woolen and worsted manufacture will go on much as before. Some weaker mills may go to the wall. It is freely said, even in manufacturing circles, that the proportion of weaker establishments is in this industry not inconsiderable.

¹ See the excellent article by Mr. W. S. Culbertson, in the *American Economic Review*, March, 1913, which summarises the results of the Tariff Board's investigations and adds some valuable calculations of his own.

Those mills which are well equipped and well managed will probably hold their own. But they will have to adjust themselves to new conditions, and may go through a trying period of transition. The "cutting up trade" (the manufacturers of ready made clothing, who are the largest buyers from the mills) will doubtless experiment with foreign and domestic goods, will buy more or less sparingly until it appears what will be the relative prices of the two, and will compel a sharper rivalry among the manufacturers. Free wool will make possible the utilization of fibers not previously used, and so the production of new classes of goods. Some time must elapse, possibly two or three years, before it is clear what will be the situation of the woolen industry under the new conditions.

In any case it is probable enough that some branches of the domestic woolen manufacture may have to be given up. To a layman, the evidence indicates that the makers of the finest goods and of the cheapest goods are most in danger. The so-called standard medium goods, to which the bulk of the manufacture is given, will probably hold their own. The finest and most expensive grades of men's cloths and women's dress goods seem most likely to be imported in considerably larger volume, and to supplant the domestic goods. Some foreign manufacturers, especially Germans, who have transplanted their establishments to the United States under the temptation of the high rates of 1897 and 1909, will apparently suffer severely.

If the forecast just made is confirmed by the course of events, it will follow that no great change in the price of woolen goods is to be expected. Some reduction will ensue because of the lower price of wool; some further reduction perhaps because of keener competition between domestic and foreign manu-

facturers, and sharper conduct of the industry by the former. A more incisive reduction of the duty on woollens, bringing it much below the 35 per cent rate, might indeed lead to far-reaching changes; but nothing of the kind has been done, and is not in prospect for the visible future.

On cotton goods the reductions are not dissimilar in character and in effect from those in the *ad valorem* rates on woollens. The change on the statute book is great; the figures go down sharply. But in this case also the consequences in trade and industry are much less considerable than in the figures.

The rate on the lowest counts of cotton yarns is but 5 per cent. On the cheapest grade of unprinted and unbleached cotton cloths, it is $7\frac{1}{2}$ per cent. For finer grades, the rates rise progressively, the highest on yarns being 25 per cent, and on plain cloths $27\frac{1}{2}$ per cent. An additional duty of $2\frac{1}{2}$ per cent is imposed in all cases on cloths which are bleached, dyed, printed, or mercerized. The maximum duty on cloths is thus 30 per cent. On ordinary hosiery, the rate is 20 per cent; but on hosiery that is fashioned and shaped comparatively high duties are retained, — 30 per cent if the value is 70 cents per dozen or less, 40 per cent if the value is between 70 cents and \$1.20, 50 per cent if the value exceeds \$1.20. This is one of the comparatively few cases in which the fence system (abrupt steps in the rate of duty, when goods get beyond a given value point) is retained. Cotton knit goods, in general, are dutiable at 30 per cent, and the drag-net clause (manufactures of cotton not otherwise provided for) has 30 per cent. Cotton gloves, which had been affected by one of the jokers of 1909, are dutiable at 35 per cent.

These figures, to repeat, make very radical changes from those previously on the statute book. But, to repeat once more, on most of the goods the reduction will be nominal. The cheaper grades of cottons are produced in the United States as cheaply as in any country. Barring occasional specialties, no such goods are imported. They are exported from the United States, not imported. Goods of medium grade, tho not exported, would hardly be imported in considerable quantities even under complete free trade; and the *ad valorem* duties now imposed will continue to keep the domestic market securely in the hands of the American manufacturers. It is the finer grades of goods that are most likely to be affected. The importation of these had continued even in face of the previous high duties, and is likely to be stimulated by the lower rates. It is these also which had been most affected by the specific duties of the earlier tariff acts. The adjustment of the specific duties had been undertaken at the behest of the domestic manufacturers, or at all events at their suggestion, and had been so devised as to impede most effectively the competition of the foreign manufacturers. No doubt in most of these cases the duties were needlessly high. They were prohibitory, as they were in the case of woolen goods; and the continuing importations consisted largely of specialties which held their own in the market notwithstanding prices much enhanced by the duties. In the case of the finer cotton goods, as in that of the finer woolen goods, there will be some displacement of domestic products by foreign. It must remain to be seen how great that displacement will be.

All the duties on cotton goods are now assessed by value. Except for the retention of a remnant of the fence system in the hoisery duties, not a specific rate

appears in the entire schedule. This radical change was made the occasion for severe criticism, on the familiar ground that *ad valorem* duties tempt to undervaluation and fraud. The criticism is not without basis; and yet the adoption of the *ad valorem* system was almost inevitable. It is in no small part the result of abuses in the previous adjustment of the specific duties. The cotton schedule had been a highly intricate one, with duties varying according to the count of threads per square inch, the number of yards to the pound, the bleaching, coloring, and staining, and finally with a most elaborate fence system of value points. Just what the whole intricate array signified could be known only to persons conversant with every detail of the industry; that is, chiefly to the manufacturers themselves. It was more than suspected that the manufacturers, in their suggestions to the friendly legislators of former days, had manipulated the rates in such manner as to secure not only high protection, but higher protection than would have been granted if the significance of the rates had been fully understood. Charges of this sort, tho doubtless exaggerated, were not without foundation. In the act of 1909 itself, which had professed to reduce duties, some changes had been made, and more had been attempted, for increasing the intricate specific duties in a fashion not straightforward.¹ In view of this familiar situation, it was to be expected that the Democrats should cut loose once for all from the specific system, and substitute *ad valorem* duties, which tell their tale on their face. Moreover, the temptation to undervaluation is not likely to be considerable under duties as moderate as

¹ See an article by S. M. Evans in the *Journal of Political Economy*, for December, 1910, on "The Making of a Tariff Law;" and a note by M. T. Copeland in this *Journal*, February, 1910, p. 422.

most of those in the new cotton schedule. This temptation becomes progressively greater as duties become higher, and is least when duties are low. Altho no hard and fast rule can be laid down, it is probable that duties of 30 per cent *ad valorem* can be collected on goods of a standard sort as honestly and efficiently as elaborate specific duties. The danger point in these matters seems to be reached with duties as high as 40 per cent, certainly with duties as high as 50 per cent. It is naturally greatest for goods not of a standard character, whose current market prices are difficult to check. It happens that cottons precisely of this kind had been subject to *ad valorem* duties in the tariff acts of former years. As regards these, the difficulties are made less rather than greater, since the *ad valorem* rate is lowered; while on the goods formerly subject to specific duties, neither the rate nor the character of the goods is such as to make the system unworkable.¹

The duties on silks are readjusted on the same principle as those on cottons. *Ad valorem* duties are substituted throughout for specific. The general rate on silk fabrics is made 45 per cent; on velvets and plushes, it is 50 per cent. In the Senate, amendments were inserted retaining (tho with some reductions) the previous system of rates by the pound. But the House refused to concur in these amendments and the act as finally passed swept away almost every specific duty in the silk schedule.

In this case also the abolition of specific duties is to be ascribed to a feeling of suspicion concerning their intent and real effect. The highly complex

¹ Cf. what is said below (p. 26) on the administrative sections of the act and the collection of *ad valorem* duties.

system adopted in 1897 and retained in 1909 had been devised nominally by the custom officials, but at the least with the advice and concurrence of the manufacturers. The plea which was advanced for the change from *ad valorem* to specific rates was that thus only could undervaluation and fraud be prevented. Beyond doubt undervaluation had been common and sometimes flagrant. Beyond doubt, also, it was lessened after 1897; tho by no means entirely prevented, since under the dragnet clause a considerable part of the imports still remained subject to an *ad valorem* duty.¹ On the other hand, so intricate was the classification, so fine and minute were the lines of gradation in the specific duties, so troublesome was it to check inaccurate and even fraudulent statements, so difficult to find competent supervisors at the meager salaries offered by the government, that the working of the new system seems to have proved in practice not greatly superior to that of the old. But these administrative difficulties were not decisive in bringing about the complete return to the old *ad valorem* plan. It was tolerably certain that the elaborate specific duties contained some "jokers"; and any readjustment of them, calling of necessity for advice from the same persons that had planned them at the outset, was likely still to retain jokers. The certain method of getting rid of this wretched adjunct of the tariff legislation of the past was to maintain *ad valorem* duties throughout. These have at least the advantage of telling their own tale plainly.

The rates on silk fabrics are left comparatively high, — on most goods, 45 per cent. The reductions

¹ All silks on which the specific duties did not amount to much as 45% or 50% (the rate varied on different goods) had been left dutiable at these *ad valorem* rates as minima.

are by no means so great as those on cottons and woollens. This remains true, even after making allowance for the circumstance that a duty of 45 per cent is much more likely to be shaved by undervaluation than is one of 30 per cent; making allowance, too, for the further circumstance that the unusual variety in silk fabrics makes it difficult to check importers' statements of market value and impedes the detection of undervaluation. The silk manufacturers got off easily. The explanation apparently is that silks were regarded as luxuries, and therefore properly subject to duties higher than on other textiles. It need hardly be said that if taxes on luxuries are to be imposed on strict revenue principles, and with the design of reaching persons who can well afford to pay, they should be imposed upon the domestic article as well as upon the foreign. To fix a customs duty, for purposes of revenue, at a point so high as greatly to impede importation, almost prohibit it, is obviously stultifying. There is ground for suspecting that something precisely of this sort has been done in the case of the silk duties. They remain prohibitory on most silks. A lower range of rates would probably have yielded more revenue, and would have been more in accord with the competitive principle.

The silk manufacture, as it happens, has reached the stage where there is good ground, on other than bare revenue principles, for a reduction of duties. It has had for half a century an unusually high degree of protection. It has grown with extraordinary rapidity to very great dimensions. Its character has been entirely changed. The development has been not only quantitative but qualitative. It may present a case, — I am not convinced that it does, but at least the possibility is present, — of successful protection

to young industries. The duties have become prohibitory on most silk goods, as they have on woolens. The rates could have been reduced much more without disturbance to the bulk of the industry. The time seems to have come for application of at least some approach to the final test in the young industry argument, — an incisive reduction of duties, in order to ascertain whether the industry leans less on protection than when first supported, and has made progress toward eventual independence.

Another schedule upon which the reduction of duty was less than might have been expected is that on pottery and earthenware. Here also duties have been left comparatively high, apparently on fiscal grounds. The changes in rates on the significant articles are as follows: —

	Act of 1909	Act of 1913
Earthenware and crockery, not colored or ornamented.....	55%	35%
Crockery, colored or ornamented....	60%	40%
China and porcelain ware, not colored or ornamented.....	55%	50%
China and porcelain ware, colored or ornamented.....	60%	55%

The cheaper grades, classed as earthenware and crockery (whether plain or ornamented) are largely produced in the United States. The imports are not inconsiderable, yet the domestic manufacturers in the main hold the field. The case is the reverse with the finer grades, — china and porcelain ware, — on which it will be seen that high duties have been retained. These are chiefly imported, and may be fairly regarded as articles of luxury. The duties on them are mainly revenue duties, and there is no reason why they should not be left as high as they are. No doubt the problem

of undervaluation remains. It has been the occasion of no little trouble in the past, and will probably continue to be in the future. On earthenware and crockery proper, where the duties have been left at 35 and 40 per cent, the situation is different. These are distinctly protective duties, and moreover are so high on many grades as to be prohibitory. On the competitive or fiscal principle, it would seem that, like the silk duties, they might have been lowered even more than has been done.

The duties on iron and steel caused comparatively little debate, as had been the case in 1909. It has become more obvious than ever that the center of interest in the protective controversy has shifted from the iron schedule to others, especially to schedule K (wool and wools). The progressive reduction of duties which has gone on since 1890 has been carried a stage further. Not only iron ore is made free of duty, but also pig iron, scrap iron (already made free in 1909), iron in slabs and blooms, Bessemer steel ingots, and those forms of crude iron which are used for admixture in the steel making processes, such as spiegeleisen and ferro-manganese. Barbed wire and galvanized wire, such as is used for fencing, also is free: a concession to the farmers which, under the actual conditions of supply, is of no real consequence. Steel rails are on the free list. Moderate *ad valorem* duties are imposed on other manufactures of iron, rising as the products became further advanced beyond the crude stage. Bar iron, for example, is dutiable at 5 per cent, steel bars at 8 per cent, structural shapes at 10 per cent. Tin plate, that old bone of contention, gets 15 per cent; tubes and pipes, 20 per cent. The dragnet clause, on manufactures of iron and steel "not otherwise provided for," imposes 20 per cent, —

no small reduction from the previous duty of 45 per cent. Most of these changes signify little. There may be an increase in the importation of certain specialties; and some seaboard regions, more easily reached from abroad by water than from the centers of domestic production by land, may import sporadic supplies of crude iron. In the main, the course of production within the country, the sources of supply, the range of prices, will not be affected. The time has gone by when the protective system was of real consequence for the iron and steel industries. For good or ill, it has done its work.

Some minor items may be briefly noted. Hides, made free in the act of 1909, after so hot a debate, of course remain free; and now leather, and boots and shoes as well, are added to the free list. Wheat and flour, cattle and meats are also free. In the House an endeavor was made to retain duties on wheat and cattle, while abolishing those on flour and meats; an attempt to relieve the consumer and yet keep a show of protection for the farmer which was obviously stultifying. Good sense prevailed in the end, and the duties on all these food products are swept away. The change is not likely to be of moment for some time in the future, — barring some border trade, and occasional importations in bad seasons. It is among the possibilities, no doubt, that eventually there may be more serious consequences. Eggs, milk, cream go on the free list: again articles in which only a small border trade will be encouraged. Coal and lumber also go on the free list at last; the remnants of duties retained in 1909 are swept away.

Books chiefly in foreign languages remain untaxed, notwithstanding an unintelligent attempt to subject them to duty. But now "all text books used in

schools and educational institutions" also are put on the free list. Wearing apparel and personal effects of travellers "necessary and appropriate" for use, are free without limit of value; and in addition residents of the United States returning from abroad may bring in \$100 worth of articles "for personal or household use or as souvenirs or curios."

A general anti-dumping section is maintained, substantially the same as that in the tariff act of 1909. The Secretary of the Treasury is authorized to impose additional duties equal to the amount of any grant or bounty on exportation given by any foreign country. The provisions for maximum and minimum duties, which played so large a part in the debates on the tariff of 1909, are dropped entirely.

The wide use of *ad valorem* duties has called for a revision of the administrative sections. This part of the tariff has given occasion for constant patching, from 1789 to the present. Even in the acts of 1890, 1897, and 1909, in which *ad valorem* duties were replaced by specific wherever thought feasible, so many of the former remained that in each successive measure the provisions against fraud were made more stringent or new administrative features devised. In 1890, the Board of General Appraisers was established, having power to decide definitively on questions of fact which previously had gone to the courts and had clogged them. In 1909, the Court of Customs Appeals was established, with exclusive jurisdiction over the strictly legal questions arising under the customs acts. It is surprising, in view of the strong desire of the then dominant party to strengthen the protective system, that the provisions concerning declaration, valuation, collectors' powers, and the like, should still have left

many loopholes for the dishonest importer. Yet such was the case; and modification of the sections covering these matters was still necessary in 1913. It is but just to note that the Taft administration had given consideration to the same problems, and had appointed committees of administrative officials to recommend improvements. The Democratic Committees, under Mr. Underwood's leadership, also gave them earnest attention. The pertinent sections of the tariff accordingly are largely rewritten. That they are substantially improved is the judgment of specialists competent on this intricate subject.¹ The penalties for fraud are made, not indeed heavier, but more certain; litigation on contingent fees (a great abuse) is prohibited; the powers of collectors are strengthened. A clause that aroused strong opposition seeks to give opportunity for the examination of the books of importers and foreign manufacturers suspected of dishonest practices. After much discussion, and vehement protest from persons interested, the clause was so framed as to give the Secretary of the Treasury discretionary authority to impose an additional duty of 15 per cent in cases where there is refusal to submit books and records. On other matters also a discretionary power is given the Secretary of the Treasury: a mode of procedure much wiser than that of rigid prescription by law. Not of least interest to economists and others having occasion to study the course of foreign trade are provisions for the better collection and arrangement of the statistics of imports. There has been ground for suspecting these of serious inaccuracies.

On the whole, the administrative provisions are well drawn. How far they will succeed in making the

¹ See the analysis of these sections made elsewhere in the present issue (see p. 31) by Mr. James F. Curtis, who was the efficient assistant secretary of the Treasury in charge of these matters under the Taft administration.

new system work satisfactorily remains to be seen. As has already been said, no great trouble is likely to arise when the rates do not exceed some such figure as 30 per cent. But when goods are subjected to *ad valorem* duties as high as 45, 50, 55, even 60 per cent (for example, silk piece goods, silk apparel, china ware) the temptation to evasion becomes so strong that all the penalties in the world will not entirely prevent it. If specific duties are abandoned because deemed suspicious or impracticable, the only safe administrative policy is to keep the *ad valorem* rates moderate.

It has been pointed out time and again, in the preceding pages, that many reductions of duty made in this act of 1913 are likely to be without real effect. They serve to lower duties that have been prohibitory or abolish duties that have been nominal. Much the larger part of the changes are probably of this sort. Can it be said that they are worth while ?

Beyond question, the consequences in industry and in prices that will ensue have been immensely exaggerated by both sides. Such exaggeration is the inevitable result of the tariff's having become an issue in elections. And apparently the tariff question cannot be other than one of party politics. It is enveloped in partisan controversy quite as much in England, Germany, France; and in these countries also the economic effects of protection are constantly over-stated. In our own country, the main channels of industry and trade have not been seriously deflected by the tariff system. The great bulk of our occupations would be conducted in the same way even under complete free trade. Such modifications as are now made in the tariff will call for readjustment in only a small fraction of the whole field of industry. And

by the same token, they will lower prices comparatively little. The expectation that the cost of living will be substantially lowered is doomed to disappointment.

None the less, it is worth while to make the changes; not only those of real consequence, but those of merely nominal effect. It is worth while, if for no other reason, because it may fairly be expected to put an end to the superstition that all prosperity is dependent on the maintenance of a rigid protective tariff. This superstition was indeed somewhat shattered by the crisis of 1907, and the period of depression that followed. But it has been so dinned into the public ear, — there have been such vociferous predictions of general disaster, of collapse for all manufacturing enterprises, of destruction to the American standard of living, — that it is well to prove the industrial organism quite able to survive this general pruning. A more sober consideration of the tariff question may be expected to follow a proof its comparative unimportance, and then a greater attention to the social questions which constitute, after all, the inexorable problems of the century.

And yet, it may conceivably turn out that the old superstition will be strengthened, not put an end to, by the course of events under the tariff of 1913. An immense deal will depend on the accident of good or bad times during the years of President Wilson's administration. I say accident, meaning that in this regard the tariff itself will be of but little influence. The turn toward prosperity or the reverse, — as the case may be, — will depend on factors quite different. Tho we are much in the dark concerning the causes of the periodic alternations of activity with depression, every competent observer will agree that among these

causes tariff legislation is the least important. But the average person reasons, or rather feels, differently. If we have bad times for the next three or four years, he will hold the low duties responsible; if we have good times, he will give the low duties the credit. As is proved by the experience of 1846-57, and again by that of 1897-1907, a period of general prosperity leads to an acceptance of the existing tariff as satisfactory, whether it be one with a low range of rates or a high one. So it will doubtless be with the tariff of 1913.

Hence those who believe that our protective system has been partly misdirected, partly outgrown, — the cause in some degree of unhealthy industrial development, but in even greater degree of political jobbery and exasperating fallacies, — will pray for good times in the immediate future. The juncture would seem not unfavorable. The country is not, as it was in 1894, in the initial stages of a period of depression. It would seem to be rather in the middle of the usual cycle, and ready for an upward swing. But he would be rash who counted too confidently on the repetition of the precise sort of oscillation which has appeared in previous industrial cycles, or ventured to predict that this year or the next would usher in a stage of activity and prosperity. The event must be awaited; and the tariff of 1913 must take its chances of being held responsible for an outcome on which, after all, it can have little influence.

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THE ADMINISTRATIVE PROVISIONS OF THE REVENUE ACT OF 1913¹

SUMMARY

The great use of *ad valorem* duties in the act, 31. — Action of House and Senate, 33. — Consigned and assembled shipments, 33. — Forms of declaration at Secretary's discretion, 34. — Better statistical returns, 34. — Penalties strengthened, 35. — Some hardship for importers obviated, 36. — Ascertainment of foreign value, 38. — Protest fees required; contingent attorney fees prohibited, 38. — Character of hearings before General Appraisers, 40. — Fictitious cases by domestic manufacturers prevented, 41. — Penalties, 42. — Burden of proof in suits for value, 43. — Provisions on examination of books of foreigners and importers, 44. — Conclusion, 45.

ONE of the most striking features of the new tariff is the wholesale adoption of the *ad valorem* method of assessing duties. Much may be said upon each side of the question of the rival merits of the *ad valorem* and the specific bases for levying duties; and Secretaries of the Treasury have differed fundamentally upon this question. But there can be little discussion upon the relative difficulties of administration of the two, or upon the ease with which frauds may be practised upon the revenue. The *ad valorem* method throws far greater difficulties in the path of the Treasury Department, both at the custom houses and abroad, and also immeasurably increases the opportunities, temptations, and facilities for fraud upon the part of the importer. As was aptly said by one of the ambassa-

¹ The revenue act of 1913 is entitled "An Act to reduce tariff duties and to provide revenue for the government, and for other purposes." Section I fixes the tariff duties. Section II levies the income tax. Section III, the one here under consideration, settles the administrative details of the tariff. Its paragraphs are listed under capital letters, A, B, C, D, and so on. Section IV contains miscellaneous provisions, — on trade agreements (quite innocuous); modifications affecting Cuba, the Philippines, and Porto Rico; drawback arrangements; and so on, in considerable number.

dors at Washington from a foreign country where the specific method has been adopted; "We think our collectors can tell a pair of shoes from a grand piano very readily": and he might have added, "and from a gallon of whiskey, or a ton of coal, or a yard of cloth, and can count, gage, weigh, or measure them with ease and exactness." On the other hand, it is no simple matter for an appraiser in Cleveland, let us say, to ascertain with entire accuracy the exact value of a bale of wool in Afghanistan upon a day months past (the day of shipment); which is the job that is required of him under the *ad valorem* system. And this job, the Underwood Act has increased to a somewhat terrifying extent. For example, Schedule A, comprising chemicals, oils and paints, included eighty-three paragraphs in the tariff of 1909, of which fifty-eight were specific, eleven *ad valorem*, and fourteen both specific and *ad valorem*. The same Schedule in the act of 1913 includes seventy-one paragraphs, of which only twenty-two are specific, thirty-two being *ad valorem* and sixteen being both specific and *ad valorem*. And this illustration is typical of the whole measure.

Now it early became obvious to Mr. Underwood and his associates that the proper protection and collection of the revenues upon the *ad valorem* basis would require a clothing of the collecting force with all the powers necessary to prevent and punish frauds in undervaluation. As a natural consequence the administrative sections, which found their origin in the Customs Administrative Act of 1890, amended in some particulars by the Dingley act of 1897, and the Payne act of 1909, were gone over with the utmost care in order that the weak places might be strengthened and the powers of the government to get at the truth in matters of valuation might be made clear and summary.

Altho the Sub-Committee of the Senate, influenced to a large extent by a committee purporting to represent the sentiments of the Merchants Association of New York, apparently became imbued with the idea that a "conspiracy" existed to defeat the object of the lowered duties by harsh administrative provisions, and eliminated a larger number of the reforms found therein, a substantial number have been restored by the conferees and now appear in the law.

The first of these changes is found in paragraphs C and D of Section III. This amendment requires that there shall be included within the general description of "purchased" merchandise, all articles concerning which "agreements for purchase" have been made, altho title has not actually passed. The purpose of this change undoubtedly was and its effect will be, to prevent the importation, upon a "consigned" form of invoice, of merchandise which has actually been made the subject of a bargain and sale. Thus the appraising officer will have the benefit of an intimate knowledge of the real transaction concerning the goods imported, a knowledge which in many instances he had been prevented from obtaining under the old law.

Paragraph D also contains an amendment requiring the consulating of an invoice in the consular district where the merchandise is assembled for shipment, in cases where purchases are made in more than one district. This will obviously tend to avoid the present uncertainties as to the correct procedure in such cases and will benefit both the shipper and the government. It may be noted at this point that a later paragraph (X) amplifies the provision on assembled merchandise, by requiring that such invoices shall have attached thereto the original bills, invoices, or statements,

showing the prices or expenses of each purchase or consignment. This will add materially to the labor required of the shipper of assembled merchandise, but it will only give the appraisers the amount of information to which they have always been entitled, but which they have been unable to get in many instances.

The next important change is found in paragraph F, which abolishes the four rigid statutory forms for declarations which have heretofore been mandatory. In their stead is a provision that the declaration accompanying the entry shall be upon a form "to be prescribed by the Secretary of the Treasury according to the nature of the case." This amendment will give flexibility to the requirements for declarations and will permit the Secretary to provide proper forms to cover the constantly changing conditions of business, and will require the importer to make a declaration true both in letter and spirit, — a requirement that is today not always possible of fulfilment.

There is added to the paragraph also an authorization to the Secretaries of the Treasury and Commerce to establish lists of imported articles for statistical purposes, which must be used in making out the declarations upon entry; and it is made the duty of the consular officers to require such statistical information to be furnished at the time of consultation of the invoice. This reform is undoubtedly the result of the efforts of a joint committee of the Departments of the Treasury and of Commerce and Labor which had been at work for more than a year during the last administration upon the problem of improving our statistical returns of imports and exports. While it will require some additional clerical labor on the part of the foreign shippers and our own importers, it will be of considerable value in augmenting the accuracy of our statistics, hitherto woefully lacking in that regard.

Paragraphs G and H, which provide the penalties, criminal and civil, for fraudulent entries, replace subsections 6 and 9 of Section 28 of the Payne act. Each paragraph has been strengthened in order to bring within its terms various fraudulent acts of importers which have heretofore escaped without penalty, owing to loopholes or weaknesses in the existing laws. The changes are aimed principally at the practice, so common hitherto, of having the entry and the declaration made by an office boy or an agent or broker, acting for the importer, from whom all knowledge concerning the facts of the transaction is carefully kept. Under the old law it was practically impossible for the government to fix the liability for frauds thus accomplished; now the person who makes the entry and every person who aids or procures its making will be held strictly accountable for the truth of the facts therein recited. In other words, the new law has real teeth, to take the place of sham ones that had been filed away by court decisions. Importers and their agents would do well to study the provisions of these paragraphs before making entry, for while they do not require anything more than the exact truth, they do require this, without equivocation. Incidentally there is an added proviso which will prevent what are called "general order" goods from retaining the immunity from forfeiture which they now apparently enjoy. That is, merchandise which has been shipped from abroad accompanied by a false invoice, but of which no entry has been made at the port of arrival, will be held to be the subject of an attempt to enter by fraud, and consequently liable to the ordinary forfeiture provisions. Under the old law (unless a case now on appeal in the Supreme Court should be reversed) an importer whose fraud was discovered prior to the arrival of the goods,

could escape all consequences by merely letting them go, without formal entry, to the "general order" warehouse.

Two changes are made in Paragraph I. The first is of no real importance, — an insertion to the effect that an importer may make an addition or deduction to or from the invoice value of his merchandise at the time of making entry "but not after either the invoice or the merchandise has come under the observation of the appraiser." The change in language from the act of 1909 is slight, and in practical administration will be nil, as a practice had grown up under the rulings of the Treasury Department by which the language of the Payne law was construed to mean exactly what is now inserted in the Underwood bill. A very substantial amendment, however, made in conference, provides that an importer may, by direction of the Secretary of the Treasury, have his duty assessed upon an amount less than the entered value, provided that the importer certifies at the time of entry that the entered value is higher than the foreign market value, and that the goods are so entered in order to meet advances by the appraiser in similar cases then pending upon an appeal for re-appraisement, and provided further that the importer's contention shall be sustained by final decision upon such re-appraisement, and it shall appear that his action was taken in good faith after due diligence and inquiry upon his part. The Secretary is also required to accompany his directions with a statement of his conclusions and his reasons therefor.

Undoubtedly this provision will prevent the hardship under which a few importers were placed by the provisions of the Payne law in cases where they have had an honest disagreement with the appraiser's officers as to the true value of the imported merchandise.

Under the Payne law (which is copied exactly in this section of the Underwood bill, with the above proviso added) if an entry is made at too low a valuation, and is raised by the appraiser and sustained by the general appraisers upon appeal, the importer must not only pay the increased duty to be assessed upon the higher valuation but also an additional duty of 1 per cent for every 1 per cent of undervaluation, not exceeding 75 per cent in all. This general provision was and is necessary for the adequate protection of the revenues against under-valuations. On the other hand, there is a further provision that duty in no case shall be assessed upon a value less than the entered value. The result of the two is that while the case is on appeal before the Board of General Appraisers the importer who brings in more merchandise of the same character is literally between the devil and the deep sea. If he enters his merchandise at the lower value which he claims is correct, and his contention is finally held invalid, all his entries are liable to both the increased and the additional duties described above. On the other hand, if he makes an entry at the valuation claimed by the appraisers, and their contention is finally held invalid, he can get no rebate but must pay with respect to all the entries upon a value not less than the entered value. In attempting to relieve the harshness of this situation Congress has thrown upon the Secretary of the Treasury a responsibility which in a modified form has been tried before and abandoned, and which will very likely lead to many charges of favoritism and undue influence. It will tend to encourage every importer to place a low valuation upon his merchandise, contest by appeal all such increases as may be made by the local appraisers, file the required certificate of good faith and due diligence, and hurry to the Secretary of

the Treasury with a request that all his merchandise be allowed entry at the lower rate. Should that rate in the test case be sustained, the Secretary, or rather the Assistant Secretary in charge of the customs (for upon his shoulders will fall the burden of this Section) will then have to decide as to the good faith and general merits of the claims put forward by a number of importers, altho he is without adequate machinery or time to hold hearings under oath in this regard. The amendment undoubtedly will cure the evil that sometimes but not very frequently occurs. Whether or not it will plunge the Treasury Department into worse evils is a question which cannot be answered without an actual experience of its administration.

The next change appears in paragraph L, which is the paragraph authorizing appraisers in cases where merchandise is not actually sold or freely offered for sale in the open market of the country of exportation to ascertain the foreign market value by deducting from the actual selling price in the United States, the estimated duties, cost of transportation, insurance, and other necessary expenses, a commission not exceeding 6 per cent, and profits not to exceed 8 per cent, and a reasonable allowance for general expenses not to exceed 8 per cent. The Payne law allowed a maximum of 8 per cent for both profits and general expenses. The Underwood bill is more liberal to the importer in this regard and allows a maximum of 8 per cent for each.

Paragraphs M and N, relating to the duties of the appraiser and the general appraisers in re-appraisement cases, have been altered in a number of particulars. An important change is that requiring a fee of one dollar for carrying an appeal for re-appraisement to the Board of General Appraisers. The House Bill had provided that this fee should be payable "with respect to each

appraisement objected to." This was stricken out by the Senate and in conference a compromise was reached to the effect that the fee should be "for each entry." While this is an improvement upon the old law, under which importers might appeal for re-appraisement to their heart's content without cost to themselves, it is not so effective as the House proposal, in view of the fact that some invoices and entries cover hundreds of sheets of paper and include thousands of items, all of which may have different values and classifications. The same criticism may be made of paragraph N, where the House provision limiting each protest to a single article or class of articles and to a single entry or payment was stricken out by the Senate. It is not reasonable that an importer who makes an entry of one article of merchandise should be called upon to pay the same fee for appealing for re-appraisement or re-classification as an importer who appeals with respect to several hundred articles of merchandise which happen to be included in one invoice and entry.

The requirement of a protest fee is a reform urged for years by the Treasury Department during all the recent administrations; it was recommended by the Denison Committee and also by the Appraisement Commission appointed by Secretary MacVeagh; and it was also recommended by most of the members of the Board of General Appraisers. The experts in the customs service confidently expect that the enormous mass of customs litigation will be more than cut in half, and that the dockets of the Board of General Appraisers, heretofore clogged with over one hundred thousand protests per year, will now be filled with only *bona fide* cases brought to test some real issue between the importer and the government.

A second new provision bitterly opposed by customs attorneys and brokers is that "no agreement for a contingent fee in respect to recovery or refund under protest shall be lawful," and "compliance with this provision shall be a condition precedent to the validity of the protest and to any refund thereunder," and further that "a violation of the provision shall be punishable by a fine not exceeding \$500, or imprisonment of not more than one year, or both." This change was also urged by the Denison Committee, and was submitted to the Finance Committee of the Senate by Assistant Attorney Denison and by the present writer, with the approval of Secretary McAdoo. It is aimed at a grave abuse, amounting in the opinion of many to a scandal, caused by the general practice prevalent today of customs attorneys and brokers taking cases for importers upon a 50 per cent contingent fee basis. The practice has led not only to the fomenting of litigation, but also (since the longer the litigation is dragged out, the better it is for the lawyer, but worse for the importer) to a situation in which the interests of the attorney and his client were diametrically opposed in the matter of pressing the case to a final conclusion.

Paragraph M has been further amended so as to eliminate closed hearings before the Board of General Appraisers. At all such hearings the parties or their attorneys shall have opportunity to introduce evidence and to hear and cross-examine the witnesses for the other parties, and to inspect all samples and all documentary evidence offered. This provision by itself would indicate that the procedure to be adopted by the Board of General Appraisers would be approximately that of a Court or Judicial Tribunal; but it is also provided that evidence of persons whose attendance cannot be procured may be admitted in the discretion

of the Board and that the Board is authorized to exercise both judicial and inquisitorial functions. The provisions of the bill as it passed the House indicated clearly that the Board was expected to be an appellate tribunal for appraisements, exercising independent and inquisitorial means of its own for ascertaining values. The House had adopted the theory, which has been heretofore followed, and which was urged in the report of the President's Committee (composed of Messrs. Denison, Loeb and Frankfurter) to investigate the Board of General Appraisers, that any appellate tribunal on appraisement matters should add to the stock of knowledge and evidential facts concerning values. The paragraph as it came from the Senate indicated an intention to turn the Board into a judicial body. The result reached in conference is obviously a compromise. The Board is clothed with some powers like those of a court, but is still authorized to exercise inquisitorial functions like a local appraiser or other administrative officer. The net result will probably be that the hearings before the Board will be conducted in the future much as they have been in the past.

Another amendment (in paragraph N) is aimed to overcome the decisions of the Court of Customs Appeals in the Schwartz case, in which it was held that a domestic manufacturer who desired more protection for his product than the government was assessing, might import similar articles and protest because the rate or amount of duty assessed upon his merchandise was too low. The effect of this decision was to encourage fictitious litigation, which will be prevented by the new language authorizing the filing of a protest if the importer is dissatisfied with a decision "imposing a higher rate of duty or a greater charge than he should claim to be legally payable."

Importers should not feel, however, that the whole of these paragraphs has been turned against them, for there is one provision more favorable than the similar one in the old law, that relating to the time within which a protest must be filed. This period has been extended from fifteen days to thirty days after the final liquidation of the entry: and it should be noted that the "iniquitous" protest fee need not be paid for thirty days more, — a total of sixty days within which the importer may decide whether he desires to litigate with the Government or not. This period should easily suffice for all *bona fide* cases.

Paragraph O has been amended to meet a court decision to the effect that collectors and appraisers were not entitled to examine importers and other persons regarding merchandise not directly before them for consideration and action. The new law provides that the officers may make such inquiries respecting goods "then under consideration or previously imported within one year." This change is clearly in line with the policy of strengthening the powers of the government wherever experience has shown such action to be necessary. There is also a slight amendment to make certain that the testimony of persons taken by the collector or appraiser in advance of the formal hearing shall be given consideration in subsequent proceedings. While this was probably the intent of the old law, the language was not entirely free from ambiguity. The provision is especially useful in obtaining the evidence of masters and crews of vessels or other persons, whose later attendance at any given place in this country is difficult to obtain.

The next paragraph (P) specifies the penalties for a refusal to attend when summoned, or to answer the authorized interrogatories.

The changes here are two. The first substitutes a fine upon the recalcitrant witness varying from \$20 to \$500, for the former flat amount of \$100. The second, more important, provides for the recovery by the government of the value of the merchandise in question from the witness if he is the owner, importer or consignee. The old law had provided only for forfeiture in such cases, and had not authorized a suit for value in instances where the merchandise might escape forfeiture by having actually entered into consumption.

Slight alterations in language appear in paragraph Q, making clear the intent of Congress that the Secretary of the Treasury and the Board of General Appraisers are to have joint control over the publication of the decisions of the Board, either in full or by means of abstracts. A more significant change, however, is found in a new phrase requiring the Board to insert in its decisions "a statement of facts upon which the decision is based." This amendment will not affect classification cases at all, as the present practice of the Board is to include such a statement; but it will make a vital change (and greatly for the better in the opinion of the writer) in all re-appraisement cases. Heretofore, the General Appraisers, in reporting such cases, have not stated the facts which led to their decisions. In consequence the decisions were almost never of benefit in assisting either the local appraisers or the importers in arriving at correct values for later importations of similar merchandise.

Another amendment, somewhat similar to that found in paragraph P, appears in paragraph T, whereby the burden of proof is thrown upon the defendant in suits for value, just as the burden is already upon him in forfeiture cases. The only difference between the two types of proceedings is that in one the merchandise is

actually seized, whereas in the other it has escaped seizure by having entered into consumption. As recovery by the government in each class of case is predicated upon fraud, it seems entirely proper that the defendant who has been astute enough to get his goods away from the clutches of the Customs officers should not thereby be placed in any better position than a brother importer who has not had that good fortune.

Paragraph U is one of the new provisions, originating in the House bill, that caused much adverse comment both in this country and abroad. In its original form it authorized the Secretary of the Treasury to exclude from entry merchandise sold or shipped by foreigners who declined to submit their books pertaining to values or classifications to a duly accredited officer of this country. The Senate struck out the paragraph (which was wholly new) in its entirety. In conference a substitute was adopted authorizing the Secretary to levy an additional duty of 15 per cent upon all such merchandise, with a proviso, however, that such additional duties shall not be imposed upon merchandise from foreign countries where there exists legal machinery for punishing false swearing upon invoices or statements of costs in connection with the consular certification thereof. As thus enacted the paragraph gives the Secretary a power (altho not a very extensive one) which he will certainly need if the *ad valorem* system is not to break down of its own weight. It will also tend to hasten the day when adequate penalties for perjury committed abroad with reference to exported merchandise can be inflicted upon the guilty parties. At the present time there are very few countries where such is the case (possibly one or two in all).

Paragraph V, as framed in the House, provided for the same penalty of exclusion for the merchandise of

importers in this country who refused to open their books. This also was stricken out by the Senate, and finally modified in conference to a penalty of 15 per cent to be imposed at the discretion of the Secretary.

To conclude, the new law is clearly designed to protect the government and assist its officers in collecting the revenues justly due. The burdens imposed upon the honest importer who desires to comply with both the spirit and the letter of the law have not been greatly increased. It is true that he must make a statistical list of his imports, but the forms will be prepared for him by the Department, and the task should prove little if at all more exacting than the present requirement that every invoice shall contain an accurate detailed description of the merchandise covered. True, also, he will have to take far greater pains to make sure that his entries are made and verified by a person with actual personal knowledge of the facts therein recited. Under the old system, such entries were ordinarily made by a subordinate who, to quote the report of the Appraisement Commission "supports the integrity of the invoice by his declaration to the best of his knowledge and belief, without having the faintest semblance of knowledge or the frailest foundation for belief." This situation cannot exist under the new law unless both the principal and his agent are prepared to assume severe liabilities in case improper entries are made. Drastic provisions and heavy burdens, however, are prepared for the dishonest importer, who will be made to feel much more keenly than has heretofore been the case that the law is meant to be obeyed and not to be trifled with.

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THE INCOME TAX OF 1913

SUMMARY

The constitutional amendment of 1913 and the new income tax, 46. — I. The "normal" and "additional" taxes; the minimum exempt; the scale of progression, 47. — Dividends exempt from the normal tax, 49. — II. Limited application of stoppage at the source; its possible advantages and disadvantages, 50. — How applied as regards salaries and other single payments, 52. — As regards interest on bonds, 55. — "Fixed and determinable incomes," 56. — III. How minimum exemption is secured, 58. — IV. Return of income required; yet possible exceptions, 61. — V. The "additional" progressive tax, 65. — VI. Conclusion, 66.

AMONG the notable events of the year 1913, one of the most important in its influence upon the national finances and constitutional development of the United States is the adoption of an amendment to the Federal Constitution giving Congress the power "to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several states and without regard to any census or enumeration." The mere fact that an amendment of any kind has been adopted is notable, this being the first occasion on which the Constitution had undergone any change since the period of the Civil War, and the first amendment adopted in peaceful and normal times since the early days of the Republic.

It is a little remarkable, altho perhaps not altogether accidental, that the adoption of this amendment should coincide with the return to power of the political party whose attempt to levy an income tax in 1894 was frustrated by the decision of the Supreme Court in that year. Then as now an income tax was a component part of the program of fiscal and commercial reform to which that

party was committed. This program included the reduction of protective tariff duties and the direct taxation of incomes. What the Democratic party failed to accomplish in 1894, it has had a free hand to do in 1913. Indeed, the national taxation of incomes might almost be regarded as a mandate of the people of the United States. At any rate, it was a foregone conclusion that the adoption of the constitutional amendment would be immediately followed by the enactment of an income tax law.

The law instituting the income tax was approved October 3, together with the law revising the tariff, both measures being included in one comprehensive statute entitled "An Act to reduce tariff duties and to provide revenue for Government, and for other purposes." It is the object of the present article to give a general description of the income tax. This seems to be especially well worth while because the tax cannot be readily understood from a mere perusal of the involved and sometimes obscure phraseology of the law itself. For the same reason, however, the task of interpretation is not easy or entirely safe. The law has certain novel features; and some of the questions of detail to which they give rise cannot be answered until we have the official construction placed upon the language of the act by the executive branch of the government and possibly by the courts. At the same time the main features of the tax become fairly evident to any one who makes a careful study of the provisions of the act, even tho its application to specific cases may remain doubtful.

I

The law provides that incomes shall be subject to a tax of one per cent on the amount by which they exceed

the prescribed minimum limit of exemption. This is designated as the "normal income tax." There is then an "additional tax" of one per cent on the amount by which any income exceeds \$20,000. The rate is increased to two per cent on the amount above \$50,000, to three per cent above \$75,000, to four per cent above \$100,000, to five per cent above \$250,000, and to six per cent above \$500,000. Therefore under the normal and additional tax combined, the first \$20,000 of income, exclusive of the minimum exemption, will be taxed one per cent; the next \$30,000, two per cent; the next \$25,000, three per cent; the next \$25,000, four per cent; the next \$150,000, five per cent; the next \$250,000, six per cent; and all income above that point seven per cent. This is a rigorous application of the progressive principle.

The minimum exemption, at the same time, is comparatively high, — \$4,000 for a married person and \$3,000 for everybody else. The higher exemption in case of the married is conditional upon husband and wife living together, and applies only to their aggregate income; that is to say, it cannot be deducted from the income of each. It may be noted, in this connection, that in England the exemption allowed under the income tax is £160 or \$800; in Prussia it is 900 marks, or \$225; and in the state of Wisconsin it is \$800 for individuals and \$1,200 for a husband and wife, with a further allowance for children or dependent members of the family.

The sharply progressive rates and the comparatively high exemption have given rise to the criticism that this is a rich man's income tax and disregards the principle that all persons should contribute to the expenses of the government in proportion to their several abilities. It is often said that an income tax ought to

reach all incomes with the exception of those which are close to or below the minimum necessary for subsistence, and that if people generally were called upon to contribute directly to the government they would take greater interest in public affairs and show more concern over any wasteful or unwise expenditure of public money. In reply it is contended that the limitation of the tax to the wealthy or well-to-do classes is justified because these classes do not pay their fair share of the indirect national taxes, or of local property taxes. These debatable questions lie outside the scope of the present article. It is evident, however, that the income tax should not be criticized as if it were a single tax or formed the only source of revenue for the Federal government. From the fiscal standpoint it occupies a subordinate position in the national finances, being expected to yield about \$125,000,000 annually out of a total estimated tax revenue of \$680,000,000.

The normal tax of one per cent is to be levied upon the income of corporations. In effect this provision of the law merely continues the corporation or "excise" tax which was already in existence. But that tax now becomes an integral part of the income tax, covering the income which accrues to the stockholder and is distributable in the form of dividends. On the theory that this income is reached at the source by the tax upon the net earnings of the corporation the dividends as such are exempt. They are not to be included, so far as concerns the normal tax, in the taxable incomes of the individual stockholders and the law does not provide that the tax paid by the corporation shall be deducted from the dividend.

It is perhaps a question whether under these conditions income which consists of dividends should be considered as subject to the normal tax or as exempt. It may be contended that a tax upon the net earnings

of corporations is virtually a tax on the stockholder's income, and in theory this is true. But so long as the tax is not actually withheld from the dividends, or the dividends are not reduced in consequence of the tax, the stockholder's current income is not affected. The imposition of the tax might indeed affect his prospective income and might depreciate the value of his stocks. It is hardly likely, however, that such effects will be perceptible, at least as regards the stocks of railroads and other large corporations. If, however, it be considered that income consisting of dividends pays the tax, it follows that the stockholder's income is taxed no matter how small it may be. No minimum is left exempt. On the other hand, if it be considered that all dividends are virtually exempt, the stockholder would seem to be unduly favored under this form of taxation in comparison with people whose incomes are derived from other sources. Doubtless in future the investor will look upon dividends as a form of income not subject to the normal income tax.

II

In the levy of the normal income tax there is to be a limited application of the method of assessment and collection at the source of the income. This method is applied very completely in the taxation of income in Great Britain. It may be well to recall summarily the essential features of the British system. The tax is levied upon the property or industrial enterprise which yields or produces the income. But the person occupying the property or conducting the enterprise, and paying the assessment in the first instance, is authorized and required to deduct the tax from the income as it is distributed among the persons entitled to share in it either as proprietors, landlords, creditors, or employees.

Under the English system, an industrial corporation, for instance, pays the income tax upon its gross earnings and then deducts it from the dividends, interest, salaries, and rents as these payments are made. The householder pays an assessment levied upon the annual value of his dwelling (less an allowance for repairs and insurance) and then if he occupies the premises as tenant deducts the tax from his rent. The income from agriculture is reached by a similar assessment upon the farmer, based upon the annual or rental value of the farm and with the same right of deduction from the rent if he is a tenant farmer.

From the standpoint of the government, the main advantage of this mode of assessment as compared with a tax levied directly upon the recipients of the income is the greater certainty with which it reaches the income subject to taxation. The opportunities for evasion by concealment of income are reduced to a minimum, partly because the sources of income are, in general, not easily concealed and partly because, to a considerable extent, the persons upon whom the tax is assessed are not interested in avoiding the tax. The advantages, however, are not all on the side of the government. The tax possesses certain advantages from the standpoint of the tax-payer also, assuming him to be an honest tax-payer who is not seeking opportunities to evade taxation. One advantage is that he is relieved in almost every case from the necessity of revealing to the tax officials the whole of his personal income. The tax does not pry into his personal affairs. Another advantage is that the tax is paid out of current income, being deducted from the income as it is received. It is therefore distributed over the year and adjusted to the flow of income as it comes in. A tax thus collected is less burdensome in its incidence than a tax paid in

one lump sum several months after the expiration of the year to which it relates and after the income on which it is levied has been all received and perhaps all expended.

The English system of assessing an income tax at the source, however, has its disadvantages. It is admirably suited for a tax levied at a uniform rate on all income or on all income above a small minimum. But it is not well suited for the application of progressive taxation or for the introduction of gradations or distinctions based upon the size or character of the individual incomes. Nevertheless the English income tax, besides exempting a minimum, provides for graded reductions or abatements in favor of the possessors of small incomes above the minimum, and for a reduced rate on "unearned" income within certain limits. All this, however, makes necessary a declaration or complete statement of income from the persons claiming the benefit of these provisions, and also necessitates refunding a large amount of the tax collected at the source. Moreover the progressive principle has recently been applied by imposing a "super-tax" on incomes in excess of £5,000, which also requires a declaration, the tax being necessarily assessed upon the possessor of the income and not at the source. The super-tax, it may be observed, occupies a position in the English system similar to that of the additional tax in the United States, serving to increase the tax upon the larger incomes in accordance with the principle of progression.

It has been stated above that the law which has just been enacted by Congress makes a limited application of this principle of assessment at the source, as regards the normal tax. The general rule of the law covering deduction at the source is of sufficient importance to be quoted in full. It reads as follows: —

All persons, firms, co-partnerships, companies, corporations, joint-stock companies or associations, and insurance companies, in whatever capacity acting, including lessees or mortgagors of real or personal property, trustees acting in any trust capacity, executors, administrators, agents, receivers, conservators, employers, and all officers and employees of the United States having the control, receipt, custody, disposal, or payment of interest, rent, salaries, wages, premiums, annuities, compensations, remuneration, emoluments or other fixed or determinable annual gains, profits, and income of another person, exceeding \$3,000 for any taxable year, other than dividends on capital stock, or from the net earnings of corporations and joint-stock companies or associations subject to like tax, who are required to make and render a return in behalf of another,¹ as provided herein, to the collector of his, her or its district, are hereby authorized and required to deduct and withhold from such annual gains, profits, and income such sum as will be sufficient to pay the normal tax imposed thereon by this section, and shall pay to the officer of the United States Government authorized to receive the same; and they are each hereby made personally liable for such tax.

Under this paragraph of the act every person, corporation, etc., making payments of more than \$3,000 in interest, rent, salary, etc., to any one person in any one year must in each instance deduct the normal tax and pay it to the tax collector. It should be noted, however, that the rule covers not only "payments" but also the "control, receipt, custody, or disposal" of such sums. It is impossible to say just what may be comprised under these terms. But the word "payment" doubtless represents the typical or usual case, and in the discussion which follows will be used in a generic sense to cover all cases.

The limitation of the operation of the above paragraph to payments in excess of \$3,000 was presumably deemed necessary, or at least advisable, because income

¹ This restrictive clause appears to have very little significance, for the reason that the persons, firms, etc., "who are required to make and render a return in behalf of another" are apparently the persons, firms, etc., just enumerated, namely, those having the control, receipt, custody, etc., of the annual gains, profits, and income of another person, exceeding \$3,000. The paragraph which defines the persons, firms, etc., who are to make returns in behalf of another person is cited on p. 64.

up to that limit is exempt. The intention seems to be, however, that when the normal tax is deducted it shall be computed on the total payment and not simply on the excess over \$3,000. That being the case it is evident that the deduction of the tax under this rule, tho limited to sums of more than \$3,000, will nevertheless reach a certain amount of income which is exempt. It will do this where the entire income of any person is derived from a single source or from several sources each of which yields more than \$3,000. On the other hand, it is evident that a large proportion of the payments made in sums of less than \$3,000 will represent taxable income, being received by persons whose incomes are above the limit of exemption. Many large incomes are derived wholly or in large part from sources which yield less than \$3,000 each. The adoption of a \$3,000 limit for the application of the method of deduction at the source therefore appears to be a compromise, a half-way measure. It comes far short of reaching at the source all income subject to taxation, and at the same time seems likely to reach some income that is exempt. This does not necessarily mean that any taxable income will escape assessment or that any tax-payer will lose the benefit of the exemption. Income not reached at the source is to be included in the taxable income of the person who receives it; and the tax-payer's right to exemption is safe-guarded by special provisions which are discussed below.

This \$3,000 limit, however, and the general rule of the law as regards deducting the tax at the source are materially modified by the exceptions or provisos. It is to be noted, in the first place, that in the paragraph just cited, dividends are altogether excepted from the classes of payments which are subject to the deduction of the tax. The exception applies only to dividends

paid by corporations "subject to like tax," but these include practically all corporations either located or doing business in the United States. The source of this income is supposed to have been reached by the tax on the earnings of the corporations.

Again, the application of the method of collecting the tax by deduction is very materially affected, and in quite a different way, by a proviso which removes the \$3,000 limit as regards interest payments made by corporations. The normal tax is to be deducted and withheld from the "interest upon bonds and mortgages, or deeds of trust or other similar obligations of corporations, joint-stock companies or associations, and insurance companies, whether payable annually or at shorter or longer periods, altho such interest does not amount to \$3,000." A large proportion of the bonds issued by corporations, however, guarantee the payment of interest without deduction on account of taxes. In such cases the corporations will undoubtedly assume the burden of the tax, as the provisions of the law just cited are hardly likely to be construed as requiring the violation of contracts. At one stage in the preparation of the law, a clause was inserted providing that the interest in such cases as this should be included in the taxable income of the bondholder and assessed to him. This clause, however, was not retained in the act as passed. But a proviso was inserted that no "contract entered into after this act takes effect" shall be "valid in regard to any Federal income tax imposed upon a person liable to such payment"; it is intended to prohibit any future issue of bonds guaranteeing exemption from the income tax. ✕

Considering the various provisos and exceptions in connection with the general rule of the act, the scope of the application of the method of collecting the tax

at the source may perhaps be safely stated thus: the normal tax is to be deducted (1) from all interest payments made by corporations on bonds and the like, without regard to the amount; (2) from all other interest payments when the amount is more than \$3,000 in any one year; (3) from all payments of rents, salaries, or wages amounting in any one case to over \$3,000 annually; (4) from all other payments of over \$3,000 (excepting dividends) which may be comprised under the designations "premiums, compensations, remuneration, emoluments, or other fixed or determinable gains, profits, or income."

One general restriction upon the application of the method of deducting the tax at the source should perhaps be mentioned. It is indicated by the words "fixed and determinable." That these words are not unimportant would seem to be indicated by their recurrence in other connections, and particularly by a proviso in the paragraph defining the deductions which may be made in computing taxable income. This proviso reads:

Provided that whenever the tax upon the income of a person is required to be withheld and paid at the source as hereinafter required, if such annual income does not exceed the sum of \$3,000 or is not fixed or certain, or is indefinite, or irregular as to amount or time of accrual, the same shall not be deducted in the personal return of such person.

This proviso emphasizes the fact that there are at least two general conditions to be met before deduction at the source is required: first, as already explained, the amount of income paid out must (with exceptions already noted) exceed \$3,000; and second, it must be fixed, certain, definite, and regular. Strictly speaking there would seem to be very little income which is fixed and certain in advance of its actual receipt and very little which is not fixed and certain after it has

been received. Doubtless, the terms here used are intended to cover periodical payments of income, such as salaries or interest, made in fixed or stipulated amounts. But even as regards such payments there is usually no certainty in any given instance that they will continue to be made to the same person throughout the year. Interest bearing notes and mortgages are usually transferable, and salaried positions are not always permanent. It will often not be possible to say in advance whether the aggregate payments will amount to \$3,000. Instructions already issued by the Treasury Department provide that no tax shall be withheld until the accumulated payments of the current year pass the \$3,000 limit, and that the person making these payments shall thereafter deduct the tax, the first deduction covering the tax on all payments up to date. But simple as such a procedure may be in theory, in the complicated and shifting relationships of the business world it will not always be easy to follow. The *payer* of income as well as the *payee* may change, and change more than once, during the same calendar year.


Income from investments in foreign countries is, of course, derived from sources which are inaccessible to this government. The law, however, undertakes to intercept the tax on certain classes of income of foreign origin by providing that the normal tax "shall be deducted and withheld from coupons, checks, or bills of exchange for or in payment of interest upon bonds of foreign countries and upon foreign mortgages or like obligations (not payable in the United States), and also from coupons, checks, or bills of exchange for or in payment of any dividends upon the stock or interest upon the obligations of foreign corporations, associations, and insurance companies engaged in

business in foreign countries." This deduction of the tax is to be made by "any banker or person who shall sell or otherwise realize coupons, checks, or bills of exchange drawn or made in payment of any such interest or dividends (not payable in the United States), and any person who shall obtain payment (not in the United States), in behalf of another of such dividends and interest by means of coupons, checks, or bills of exchange, and also any dealer in such coupons who shall purchase the same for any such dividends or interest (not payable in the United States), otherwise than from a banker or another dealer in such coupons."

III

In so far as the law requires the taxation of incomes at the source, some special provision must be made to ensure to the recipients of the incomes thus taxed the benefits of the minimum exemption and of any other deductions to which they may be lawfully entitled. The procedure to be followed is set forth in the following provisions of the law, the letters and numerals which mark subdivisions of the paragraph being inserted by the writer.

- X (1) In all cases where the income tax of a person is withheld and deducted and paid or to be paid at the source, as aforesaid, such person shall not receive the benefit of the deduction and exemption allowed in paragraph C of this section, except (a) by an application for refund of the tax unless he shall, (b) not less than thirty days prior to the day on which the return of his income is due, file with the person who is required to withhold and pay tax for him, a signed notice in writing claiming the benefit of such exemption and thereupon no tax shall be withheld upon the amount of such exemption; (c) nor shall any person under the foregoing conditions be allowed the benefit of any deduction provided for in subsection B of this section unless he shall, not less than thirty days prior to the day on which the return of his income is due, either (d) file with the person who is required to withhold and pay tax for him a true and correct

return of his annual gains, profits, and income from all other sources, and also the deductions asked for, and the showing thus made shall then become a part of the return to be made in his behalf by the person required to withhold and pay the tax, or likewise make application for deductions to the collector of the district in which return is made or to be made for him. 

The first part of this paragraph prescribes the steps which must be taken in order to secure the benefits of the general exemption of \$3,000 or, in case of a married man, of \$4,000. The second part relates to the deductions on account of business expenses, interest on indebtedness, taxes, losses, dividends and the like, which, as set forth in subsection B of the act, are permitted in computing the net income subject to taxation. The procedure to be followed does not seem to differ essentially in the two cases. The initiative rests with the tax-payer, or person from whose income the tax will, in absence of any action on his part, be deducted at the source. The law apparently gives the tax-payer the option of two alternatives — either to forestall the deduction of the tax or to secure a refund of the tax after it has been collected. The right to have the tax refunded in order to secure the benefits of the minimum exemption is clearly implied by the clause, “except by an application for the refund of the tax,” appearing in the first part of the paragraph. That the deductions allowable on account of expenses and interest may likewise be obtained by a refund of the tax collected at the source is indicated by the clause at the end of the paragraph giving the tax-payer the option of making “application for deductions to the collector of the district in which return is made or to be made for him.”

If the tax-payer prefers to forestall the deduction of the tax, the procedure prescribed by the law as applied to exemptions and as applied to deductions of income on account of expenses differs in one particular. As

regards the exemption all that he need do is "to file with the person who is required to withhold and pay the tax for him, a written notice claiming the benefit of such exemption." But if he wishes to forestall the retention of the tax on any income which is not taxable because it is offset by allowable deductions, he must file "a true and correct return of his annual gains, profits, and income from all other sources and also the deductions asked for." This return likewise is to be filed with the person "required to withhold and pay the tax." It would seem hardly possible, however, to make such a return prior to the completion of the calendar year for which the income is to be computed; and therefore it is difficult to see how the tax-payer can exercise this right in such a way as actually to forestall the retention of the tax at the source, unless the tax officials construe the law as permitting the acceptance of a statement of prospective income filed in advance of the actual receipt of the income. It may be noted in this connection, however, that the person retaining the tax at the source apparently is not required to pay it over to the government until the expiration of six months after the completion of the year for which the tax was assessed.¹ It is conceivable, therefore, that the tax-payer, instead of attempting to forestall the retention of the tax, might file his claim and return of income after the close of the tax year, not with the tax collector but with the person withholding the tax, so as to obtain a refund of it before it has been paid over to the tax collector. This possibility is suggested by the provision as to the period within which the claim

¹ As to time of payment there is no provision in the law except the general provision that all assessments shall be paid on or before the 30th of June. This would seem to cover assessments at the source, in view of the fact that the special provision requiring deduction of the tax simply states that the person withholding the tax shall pay it to officers of the government authorized to receive it, without specifying when it shall be paid.

may be filed, namely, "not less than thirty days before the day on which his return of income is due." The "return of income" is due on March 1st and therefore the claim may be filed at any time prior to the 29th or perhaps 30th of January following the year in which the income accrues.

No similar difficulty stands in the way of forestalling the retention of the tax when it concerns the exemption of a minimum. Here, as previously explained, the tax-payer's application need not be accompanied by a statement of income, presumably because this exemption is not dependent upon the amount of his income. He is entitled to the relief whatever his income may be. It would seem, therefore, entirely practicable in most cases to forestall the retention of the tax at the source where it affects the tax-payer's right to exemption.

The claim to exemption or deduction, with the accompanying return of income, when filed with the person who would otherwise retain the tax, is to be submitted by the latter, in making his own returns to the tax collector as his authorization for not having collected or retained the tax. This appears to be the meaning of the provision that "the showing thus made shall then become a part of the return to be made in his [the claimant's] behalf by the person required to withhold and pay the tax."

IV

The principle of assessing income at its source as applied in this act does not relieve the individual from the necessity of making a full revelation to the tax officials of his personal income from all sources. Tho this statement needs to be qualified in one or two particulars, the law provides in general that every person subject to the tax and having an income of

\$3,000 or over shall make a true and accurate return under oath or affirmation "setting forth specifically the gross amount of income from all separate sources and from the total thereof deducting the aggregate items or expenses and allowance" authorized by the law. Altho income from which the tax has been withheld is not included in the net personal and taxable income of the tax-payer, it must, nevertheless, be accounted for and included in his declaration as a part of his gross income, forming one of the specified items which are to be deducted from the gross income in arriving at the income subject to taxation.

As already intimated, the general requirement of the full and complete statement of income is subject to certain exceptions. One relates to the income from dividends, the law providing that "persons liable to the normal tax only . . . shall not be required to make return of the income derived from dividends on the capital stock or from the net earnings of corporations, joint-stock companies or associations, and insurance companies taxable upon their net income." It will be noted that this proviso is restricted to persons who are "liable for the normal tax only," *i. e.*, persons having net incomes under \$20,000. It would seem, therefore, that the tax-payer claiming and securing this privilege must in some way, without revealing the amount received from dividends, satisfy the tax assessors that his total net income including the dividends (amount not stated) does not exceed \$20,000. Of course a form of statement can easily be devised to cover the situation. But whether the law will be administered in such a way that this provision affords some relief from the general obligation of making a detailed and complete statement of income remains to be seen.

Another exception to the general requirement of a complete declaration of income covers the case of the tax-payer whose entire income has been assessed and the tax on it deducted at the source. The law relieves such persons from the obligation of making any declaration of income; altho it is not certain that this privilege can be secured without foregoing or sacrificing the benefits of any abatements to which the individual tax-payer might be entitled on account of business expenses, interest payments, losses, etc. It seems probable that where the income is all assessed at the source the tax-payer may obtain the benefit of the minimum exemption without making a declaration of income.

It appears, therefore, that assessment at the source does not, under this law, operate in such a way as to afford the tax-payer any substantial relief from the necessity of making a revelation of his income to tax officials. Whatever basis there may be for the common criticism or complaint that an income tax is inquisitorial remains under the operation of this law to nearly the same extent that it would if the tax were levied wholly and directly upon the recipients of the income, with no resort to taxation at the source.

In addition to the returns which the individual is required to make covering his own income, every individual, firm, or corporation is required to make a return covering payments on which the tax has been deducted and giving the name and address, if known, of the persons to whom such payments were made. As regards the scope and application of this requirement, the law is not altogether clear or explicit. It seems best, therefore, to cite again the exact language of the statute:

All persons, firms, companies, co-partnerships, corporations, joint-stock companies or associations, and insurance companies, except as hereinafter provided, in whatever capacity acting, having the control, receipt, disposal, or payment of fixed or determinable annual or periodical gains, profits, and income of another person, subject to tax, shall in behalf of such person deduct and withhold from the payment an amount equivalent to the normal income tax upon the same and make and render a return, as aforesaid, but separate and distinct, of the portion of the income of each person from which the normal tax has been thus withheld, and containing also the name and address of such person or stating that the name and address or the address, as the case may be, are unknown: . . . *Provided*, That . . . no return of income not exceeding \$3,000 shall be required.

The introduction of the last proviso (that no return should be made of payments of income not exceeding \$3,000) was probably thought necessary in order to be consistent with the general rule that the tax shall be withheld and deducted only from payments exceeding that amount; but to that general rule there is one important exception, as already noted, covering interest payments made by corporations. The tax on such payments is to be deducted in all cases without regard to the amounts. There is no corresponding exception to the rule as to returns. The language of the statute, strictly interpreted, would seem to mean that the corporations, altho required to deduct the tax from all payments of interest, are not required to make a return of the names and addresses of persons to whom annual interest payments are made in amounts not exceeding \$3,000.

It is, in fact, hardly possible in advance of the official interpretation and actual enforcement of the law to say how far this requirement of a return of payments of income taxed at the source extends or to whom it will apply. But as regards the deduction of the tax and the returns to be made in connection with the pay-

ment of the interest on corporation bonds, Treasury regulations have already been published, indicating the procedure to be followed. The case of registered bonds presents no especial difficulty, the officers of the corporation being in a position to make the required return giving the name of the bondholder and the amount of interest paid to him. But the procedure that would be followed in connection with the large amount of interest paid out on coupon bonds was not so obvious. In this case the corporation issuing the bonds and ultimately paying the interest has, as a rule, no knowledge who the bondholders are or how much interest they individually receive. The only person who can give this information is the person who cashes the coupons for the bondholder in the first instance. Usually coupons are redeemed through the banks; and the Treasury regulations above referred to provide that the coupons when presented to banks or other agencies for redemption or collection must be accompanied by a certificate of ownership signed by the owner of the bonds. In this case, presumably, the bank will collect from the corporation the interest less the tax and the corporation will pay the tax to the government. The failure to supply such a certificate places upon the bank accepting the coupons the obligation of retaining the tax and, at the same time, attaching to the coupons its own certificate giving the name and address of the owner of the coupons or of the person presenting them. Here the intention seems to be that the bank shall deduct and withhold the tax, collect the interest in full from the corporation, and ultimately pay the tax to the government. The corporations are to deliver all certificates to the tax collector on or before the 20th of the month following that in which they were received.

V

Regarding the assessment of the additional tax not much need be said in the way of explanation. It is, in theory at least, a comparatively simple matter. There is no attempt here to make any application of the principle of collection at the source. The tax is all levied directly upon the recipients of the individual incomes and the assessment is based upon the tax-payer's declaration, which for the purposes of this tax must cover the "entire net income from all sources, corporate or otherwise." The tax is thus largely distinct from the normal income tax as regards both the method of assessment and the rates. It is, however, to be administered through the same machinery, and no doubt to some extent the information obtained as to the sources of income in connection with the assessment of the normal tax will prove useful as a check upon the returns of income required for assessment of the additional tax. Every person whose income exceeds \$20,000 will be subject to both taxes, the normal and the additional, but presumably will be required to make only one declaration. For the purposes of the additional tax he will be required to declare his income from all sources, and therefore any relief from the obligation of making a complete revelation of income which may be secured to him through the application of the principle of assessment at the source in connection with the normal tax will be entirely sacrificed.

VI

The administration of a direct personal income tax — using that term to describe a tax levied directly on individual incomes — is a comparatively simple matter, however ineffective it may prove to be in reaching the

income subject to it. Under this method of taxation it is easy to exempt a minimum, to apply progression in the rates, or to make any other adjustments that may be deemed equitable with reference either to the size or character of the income or to the circumstances of the tax-payer. But as soon as we depart from this simple method and resort to taxation at the source, we encounter difficulties in varying the rates, allowing exemptions, or making any similar adjustments. In the English income tax, these difficulties are squarely met and surmounted. As previously explained, that tax is in the first instance levied indiscriminately on all accessible sources of income and the adjustments are effected by refunding the tax collected at the source so far as may be necessary. No provision is made for forestalling the deduction of the tax, and no returns are required of the names and addresses of persons to whom payments of income are made. The exemption, however, is small (\$800) and the abatements extend only to incomes below \$3,500. Above that point the entire income is taxable.

A tax which provides for the exemption of \$3,000 or \$4,000 from every individual income places a formidable barrier in the way of a thoro-going application of assessment at the source. It is evident that with a universal exemption as high as this, a very large amount of tax withheld and collected at the source would ultimately have to be refunded. The law as enacted indicates an intention to secure in part the advantage of assessment at the source and at the same time avoid in part the attendant disadvantage of having to refund the tax. The measure might be characterized as one which as regards the "normal tax" applies the principle of assessment at the source to corporate income completely and to other income in spots. The "addi-

tional tax" is simply the direct personal tax. The normal tax will doubtless be successful in reaching the large amount of income earned or created by enterprises conducted under the corporate form of organization, much of which would probably escape assessment under a direct personal income tax. But beyond this it is questionable whether the method of assessment at the source as here applied will be of sufficient advantage to justify the administrative complications which it involves.

It seems useless, however, as well as unwise, to venture any predictions as to how successful the tax will be in reaching the income subject to it or how well it will work in actual practice. We can afford to wait and see. Much depends upon the way in which the law is administered. After it has been in operation for a year or two, after its novel features have been tested by actual experience and those provisions which are complicated or obscure have been interpreted by administrative rulings or possibly by court decisions, we shall have a better understanding of the merits or defects of the measure than is at present possible. The law will doubtless require amendment in many particulars even if it does not need to be radically revised. That the income tax in some form will be perpetuated as a permanent part of our system of national finance may safely be predicted. Properly adjusted and wisely administered it should greatly strengthen the financial resources of the government, make possible a closer adjustment of revenue to expenditure, and secure a more equitable distribution of the burden of taxation.

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FOUR YEARS MORE OF DEPOSIT GUARANTY

SUMMARY

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If the reader has visited Texas, Oklahoma, Kansas, or Nebraska within the past few years he has probably noticed on the windows of some of the banks the sign

"Deposits Guaranteed." If he has gone inside he has found the same advertisement on the stationery. Bank deposits in these states are protected by funds raised by special taxation of the banks and administered by the state banking boards. The system, established in Oklahoma as an outgrowth of the panic of 1907, and followed with variations in the three other states mentioned, has for its objects the distribution among bank stockholders generally, of losses that have heretofore fallen upon the depositors of failed banks, and as consequences, the prevention of individual distress, the prevention of panics by maintaining the confidence of depositors, and the increase, due to such confidence, of the volume of deposits and the usefulness of banks. This experiment, unparalleled, except for the New York episode of three-fourths of a century ago, was discussed by the present writer in these columns four years since.¹ The progress of the experiment since that time now warrants further conclusions, and it is proposed now to review the incidents of the intervening period.

At the time of the former study, the question of the validity of the Oklahoma, Kansas, and Nebraska deposit guaranty laws was pending in the Supreme Court of the United States. The Texas law had not been attacked, its opponents being willing, apparently, to abide by the results of litigation over the laws of the other commonwealths.

The three laws attacked were all upheld on the principle that such taxation was not the taking of private property for a private purpose, but was the taking of private property for a public purpose, and a valid exercise of the police power of the states. It was held that the state undoubtedly had the authority to lay

¹ *Quarterly Journal of Economics*, vol. xxiv, pp. 85, 327; reprinted in Sen. Doc., No. 659, 61st Cong., 3d Session, Appendix B.

down such conditions precedent to the conduct of the banking business. "In short," said the court, "when the Oklahoma legislature declares that free banking is a public danger, and that incorporation, inspection, and the above described co-operation [the provision of a guaranty fund by taxation] are necessary safe-guards, this court certainly cannot say that it is wrong."¹

This litigation had been conducted with bitterness on both sides and its termination was a relief. While the legal problems were much the same in the various states, the financial and administrative questions have differed, and the experiences of the various states require separate consideration.

I. OKLAHOMA

The first results of the guaranty legislation in Oklahoma had some appearance of success. The state banks gained rapidly in number and in business, while many national banks surrendered their charters and reorganized under the state law, the business of the remaining national banks keeping barely steady. For more than three years now the current has been the other way and the Oklahoma experiment is found to have cost the solvent state banks in five years more than two million dollars. Bank after bank has failed. Banks in large numbers have left the state system to enter the national system for the purpose of escaping the heavy assessments levied under the state law. The remaining state banks have now forced through a new law limiting more closely the annual assessments for the guaranty fund, and have been compelled to take

¹ *Noble State Bank v. Haskell*, 219 U. S., 104, 31 Supreme Court Reporter, 186; *Shallenberger v. First State Bank*, 219 U. S. 114, 31 Supreme Court Reporter, 189; *Assaria State Bank v. Dolley*, 219 U. S. 121, 31 Supreme Court Reporter, 189; *Abilene National Bank v. Dolley*, 33 Supreme Court Reporter No. 10, p. 409.

matters, as far as possible, into their own hands. Such a result was forecasted in the articles in this Journal three and four years ago.

The Oklahoma laws of 1907 and 1909 provided for the accumulation of a guaranty fund of five per cent of the deposits of the state banks, out of which the depositors of failed banks should be paid the amount of their deposits as soon as banks closed, no matter whether the fund had reached the five per cent maximum or not. In case the accumulations in the fund should ever be insufficient to pay the deposits of any failed bank, interest bearing warrants were to be issued to the depositors. The conclusion from a study of the situation in 1909 was that any plan that provided for payment of depositors immediately upon the closing of the banks must fail, unless as a matter of simple luck failures should be very few until a large fund could be accumulated.¹ The luck has been the other way. The Oklahoma crops of 1910 and 1911 were poor. The crops of 1912, tho on the whole good, were not sufficient to restore the former level of prosperity. The year 1913, except in the cotton raising counties, has been unfavorable. The real estate boom that had been going on in many Oklahoma towns collapsed in 1910 and the succeeding years. Since the date of our former study, therefore, the state of Oklahoma has not enjoyed even average prosperity for the working out of the experiment of deposit guaranty.

No fewer than twenty-seven banks, with about \$7,000,000 of deposits, have failed since the establishment of the guaranty system, or have been liquidated with the aid of the guaranty fund, and at least two others have required assistance from the guaranty fund. These failures, however, cannot be attributed to the

¹ *Quarterly Journal of Economics*, vol. xxiv, p. 340.

adverse agricultural conditions. Only three national banks have failed in Oklahoma during the same time. Many of the state bank failures must be due to recklessness and incompetence.

It will be remembered that the first guaranty law of Oklahoma was enacted immediately after the creation of that state, which includes what was formerly Oklahoma territory and also what was the Indian territory. The territory of Oklahoma had had a banking law and bank inspection while the Indian territory had not. It resulted that a great many banks that had never been supervised were thrown under the jurisdiction of the banking department of the state of Oklahoma. It was announced ¹ that all were examined before the guaranty law went into effect, but this proves not to have been literally true. Results indicate also that the examinations were in many cases superficial and inefficient. The report of the Bank Commissioner about that time states that a large number of banks were technically not in harmony with every provision of the laws.² It was, however, felt by the state authorities that it would be unwise, and certainly it would have been unpopular, to put these banks out of business. Their deposits were, therefore, guaranteed and they remained a menace to the guaranty experiment. It is now said in Oklahoma that 75 of them were actually insolvent. This assertion cannot, of course, be verified; it illustrates the bad feeling caused by losses and consequent heavy assessments upon the solvent banks.

Perhaps the most unfortunate condition of all has been that for much of the time the state banking department was regarded as a part of a political machine. The department seems to have considered it necessary

¹ First Annual Report of the Bank Commissioner, p. viii.

² *Ibid.*, p. ix.

to make a showing of success for the guaranty law, which was a political measure. When it was no longer possible to keep a bank open it was deemed essential to pay the depositors at once even if prudence would have dictated that time be taken for exact investigation of the situation. At the same time the Banking Board feared the political effect of levying on the solvent banks assessments sufficient to cover all failures as they occurred. It was believed, and was probably true that, if the limit of assessments, two per cent of deposits per annum, should be levied, the state banks would literally rebel. While the courts would undoubtedly have decided that the banks must pay the full assessments, in practice such assessments could not have been enforced. If the six hundred state banks had combined to resist such assessments, court decrees would not have amounted to much and the political prestige of Governor Haskell and his Bank Commissioners would have suffered irreparable injury.

Again, there have been more than a few cases of outright dishonesty in the administration of the banks. The present Bank Commissioner of Oklahoma has said that the heaviest losses of the past few years could have been avoided if more careful scrutiny had been given to the records of those who sought permission to organize and operate banks.¹ In a recent conversation this Commissioner, Mr. Lankford, told the writer that he had removed twenty bank officers and prosecuted sixteen others during his term.

Some rascals come into every new country and every new state at its settlement. That there have been bad men in Oklahoma banks will not surprise those who remember how Oklahoma was first settled by horsemen who lined up at the Kansas or the Texas

¹ Proceedings of the Oklahoma Bankers' Association, 1912, p. 91.

border and at a signal rode for the choice claims, nor those who remember that for years the Indian territory had not even a territorial government, justice being administered by the Indian tribes or by infrequent federal process. Good men predominated, of course. The wonder is that bad men have been so few and are being got rid of so fast.

Now a record of nearly thirty bank failures in five years, with almost all of them coming in three years, has not been equalled in the United States for a long time, the most recent parallel being perhaps the experience of some western states during and after the panic of 1893. The comparison holds good with respect to some of the Oklahoma failures. The greater number were simply a result of collapse after rapid settlement and exploitation, followed by a period of agricultural adversity, in a state where the records and the capacity of bankers were not closely investigated, and where bank examinations were in too many cases ineffective. These are not the cases, however, that have cost the guaranty fund any great part of the two million dollar loss.

It will be instructive to consider certain failures and see how they affected the guaranty fund, or have been affected by it. In November, 1910, the Creek Bank & Trust Company of Sapulpa failed. This was a crooked failure and one of the officers was sentenced to the penitentiary. September 10, 1912, there was another failure at Sapulpa, the Farmers and Merchants Bank, which one of the State Banking Board told the writer was the worst mass of filth he had seen in Oklahoma banking. Two of the officers were in jail for some time for failing to produce some of the books.

The Citizens Bank of Mountain Park failed in April, 1911. The last report of the Bank Commissioner says

that twenty-five thousand dollars of the notes held by the failed bank represented fraudulent transactions of the officers, who had been arrested and were then under bond awaiting trial.¹

The Bank Commissioner took charge of the Night and Day Bank of Oklahoma City, June 7, 1911. This was one of a chain of Night and Day Banks operating in Memphis, Tennessee, Kansas City, Missouri, and Little Rock, Arkansas. Another bank in Hot Springs was also in the chain. Abner Davis, President of the Oklahoma City institution, was convicted in the United States Court at Memphis, in October, 1912, with five others, for misuse of the mails in the furtherance of fraudulent bank schemes. He went to old Mexico, and there was a rumor that he was thrown into jail there for some other reason. The following amusing incident is here set down for any bearing it may have on the quality of some Oklahoma examinations a few years ago. A banker who was then a state bank examiner in Missouri tells the writer that he was in Oklahoma City to gather some information bearing on the Kansas City institution, and that one of the Oklahoma examiners was assisting him by looking over the books of the affiliated Oklahoma City bank. The Oklahoma City examiner came back to the hotel and told the Missouri examiner that everything must be all right, that Abner Davis had \$30,000 on deposit in the Night and Day Bank of Oklahoma City. The Missouri examiner told him he had better go back and look again and make a thoro investigation of that account. The Oklahoma examiner insisted, however, that he was correct. When the bank closed a short time later it developed that the \$30,000 was not a credit, but was an overdraft, and that the

¹ Third Biennial Report of Bank Commissioner, p. xiv.

examiner had been deceived because the amount had been carried on the books in black ink instead of red.

This bank finally cost the guaranty fund about \$400,000. The efforts of the Banking Board to save the bank by guaranteeing its assets to successive purchasers are told below.

The Farmers State Bank of Tushka was closed in September of the same year. It cost the Fund \$26,000 and the cashier committed suicide as soon as the State Bank Examiner took charge.¹

The First State Bank of Pryor lost its capital of \$30,000 and \$30,000 besides, but the stockholders made good the loss to depositors. This failure, therefore, cost the guaranty fund nothing.

The administration of the banking department during this time of numerous bank failures has been, of course, a matter of extreme difficulty. The law contemplated, and politics demanded, that the depositors be taken care of at once. Yet with failure after failure coming, and with the banks rebelling against the intolerable assessments, it seemed necessary to resort to most astonishing expedients. The provision of the law applicable was the following:

"If the amount realized from such emergency assessments shall be insufficient to pay off the depositors of all failed banks having valid claims against said depositors' guaranty fund, the State Banking Board shall issue and deliver *to each depositor* having any such unpaid deposit, a certificate of indebtedness for the amount of his unpaid deposit, bearing six per cent interest."²

Instead of closing insolvent banks, however, and issuing such warrants to depositors, the State Banking

¹ *Ibid.*, p. xviii.

² Banking and Trust Company laws of Oklahoma, effective June 11, 1909, Art. II, Sec. 2. Italics are the writer's.

Board resorted to all kinds of schemes to keep the insolvent banks running, hoping against hope that they might be restored to solvency or that actual collapse might be avoided until the fund could be replenished sufficiently to take care of the depositors. For these reasons the Board borrowed money in Oklahoma and elsewhere, issuing warrants therefor against the guaranty fund. In the opinion of the writer authority for such warrants existed nowhere in the law either specially or by implication. Further, the Board has bought securities from banks in a critical condition in order to provide such banks with cash; has made deposits in other failing banks; and has frequently induced one bank to take over the business of an insolvent bank by guaranteeing to the solvent bank the assets of the insolvent bank. Such efforts to postpone the evil day do not often succeed. They are far more apt to be a throwing of good money after bad, and such procedure has been bitterly criticised by the solvent state banks, who believe that their assessments to meet failures have been greatly increased by the temporizing policy of the Banking Board.¹

The first great test of the Oklahoma guaranty law, it will be remembered, came with the failure of the Columbia Bank & Trust Company of Oklahoma City late in 1909. That still remains the greatest failure that has occurred in Oklahoma banking, both from the point of view of the amount of deposits involved and from the point of view of loss to the guaranty fund.

In the former study of the guaranty of bank deposits it seemed necessary to criticise the procedure of the Oklahoma Banking Department in beginning to pay depositors without any adequate inquiry into the extent of the failure. It now appears that the department

¹ Proceedings of the Oklahoma Bankers' Association, 1912, p. 77.

was even more reckless than was then supposed, and that it did not even first prove the amount of notes and securities on hand, much less their value. The result was that when an attempt was made to take a proof some three days after the failure there was a discrepancy between the books and the notes of more than \$70,000. It proved impossible to locate the discrepancy, because essential records, including the discount ledger and general cash journal, had absolutely disappeared. So far as the writer is aware they have never been discovered.

A sale of certain securities to Cobe and McKinnon of Chicago was arranged for the sum of \$300,000 and up to January 30, 1911, \$248,000 had been received from Cobe and McKinnon by the Banking Board. Cobe and McKinnon, however, were at that time claiming large sums from the Banking Board on account of the failure of title to certain items which they had included in their bid. On the other hand, the cost to the Banking Board of releasing from liens and from possible bankruptcy proceedings such notes and securities as it had actually delivered to Cobe and McKinnon had been \$194,000, or within \$54,000 of the whole amount the Board had received.¹ The writer is informed that litigation over the claims of Cobe and McKinnon is still pending. This one failure has cost the Oklahoma banks \$600,000. Almost worse than the actual loss have been the suspicions and recriminations aroused by the incidents of the failure and the liquidation.

In January, 1911, the Banking Board made a sale of 460 shares of stock of the Night and Day Bank of Oklahoma City to C. J. Webster and his associates with the agreement that the \$46,000 paid in by Webster should be considered an asset of the bank, which, with

¹ Report on Oklahoma State Guaranty Fund by Arthur Young and Co., p. 73.

surplus and profits, should be kept in a separate account known as an "indemnity account," to be used from time to time to indemnify C. J. Webster and his associates against any loss of any kind whatever due to impairment of capital or insufficiency or insolvency of notes or other securities or against any discrepancy in the accounts. The sum of \$60,000 was left on deposit by the Banking Board as additional security to Mr. Webster, and the bank was kept running. Later the bank was taken over by the Wilkin-Hale State Bank of Oklahoma City, the Banking Board taking all doubtful assets not accepted by the Wilkin-Hale State Bank and paying the latter the difference between the liabilities assumed and the assets taken. This difference was paid largely in warrants which were themselves only paid this year. The cost to the Banking Board in liquidating the Night and Day Bank had been, to January 1, 1913, \$366,000.¹

The Planters and Mechanics Bank of Oklahoma City was allowed to run long after its desperate condition was known. This was one bank from which the Banking Board purchased certain securities in an effort to keep it going. As early as July, 1910, the Banking Board was depositing money in it, and was buying securities from it, in an effort to strengthen its reserve.² The bank was not closed, however, until April 6, 1911. Bankers expect the failure to cost the guaranty fund about \$300,000.

At Durant, the Banking Board deposited \$25,000 in the Guaranty State Bank as security against any loss it might sustain in liquidating the Oklahoma State Bank.

¹ Third Biennial Report of the Bank Commissioner, p. xv.

² Report on Oklahoma State Guaranty Fund by Arthur Young and Co., p. 77.

At Muskogee, the Alamo State Bank took over certain assets of the Oklahoma Trust Company, and assumed certain liabilities. Later it was reported that the Alamo State Bank was itself not in a condition to continue business without additional capital. The Union State Bank was therefore organized to take over the business and to it the State Banking Board paid \$40,000 as a part of its capital, the Board holding the shares as security for its advances.¹ The load has proved too heavy for the Union State Bank and it has just been closed (September 13, 1913).

At Sapulpa and Okmulgee new banks were organized to assume the deposit liabilities of failed banks, under guaranty of assets by the State Banking Board. At Oklahoma City in a recent case the Banking Board issued a large amount of warrants to enable a failing bank to continue in business under a new management. This case was in the mind of a banker who said in substance at the meeting of the State Bankers' Section of the Oklahoma Bankers' Association last May: "There will be a meeting of the Executive Committee after the close of this session. I want the state bank examiners who are present to remain for that meeting. I want them to explain how it is possible for a bank under their jurisdiction to fail for \$140,000."

This bank illustrates some vicious tendencies of bank deposit guaranty unsupported by the strictest control of bank organizations. Its president was a man who years ago established a small bank in Oklahoma City and so failed to win the confidence of the community that he finally went out of business. Under the guaranty system he went into business again on a much larger scale. He obtained deposits of about \$300,000, and

¹ Report on Oklahoma State Guaranty Fund, p. 91.

it has cost the Banking Board about \$190,000, less salvage, to save the depositors.

Still another Oklahoma City case took \$30,000 out of the guaranty fund. It is astonishing what a heavy proportion of all the losses has occurred at Oklahoma City. An Oklahoma City banker estimates the losses to the fund in his own city at \$1,670,000 (the exact cost depends on the result of the liquidations). This may be high, but at any rate approximately three dollars out of every four the fund has lost have been lost in Oklahoma City, the metropolis and now the capital. The effect of unfavorable economic conditions has been cumulative upon those banks at the capital that from recklessness or inexperience have not been able to keep clear of bad paper, or in one case perhaps have not tried. It has been already pointed out that an inevitable effect of a state-administered system of deposit insurance, or guaranty, is that the state cannot limit the size of single risks. Nor can it avoid the "conflagration hazard" by fixing a maximum of risk that it will assume in a single locality.

The cases described sufficiently illustrate failures and liquidations. They are a sorrowful story, even tho not all failures were dishonest and not all liquidations wasteful. The procedure of the Banking Board in many cases where banks were in difficulty seems to the writer outside the law as it existed before the last session of the legislature. The law contemplated that the Banking Board should pay the depositors after failure, not that the Board should try to avert failure by depositing money in failing banks, buying their securities or guaranteeing their assets. How competent business men could do such incredible things can be explained in only one way. To repeat, these expedients were resorted to under the pressure

of real or supposed necessity, that of preventing the actual closing of the banks in such numbers as to break down the guaranty system. The writer was present this year at the meeting of the State Bankers' Section of the Oklahoma Bankers' Association. One of the new members of the State Banking Board nominated by the State Bankers themselves arose and said that he had formerly been of the opinion that the effort to keep insolvent institutions going was wrong, but that since becoming a member of the State Banking Board and having an opportunity to look at things from the inside he was not sure that there had been any other way. He was of the opinion, however, that it would be no longer necessary to postpone the closing of insolvent banks, because the new Oklahoma law adopted this year provides for smaller maximum assessments than before, and so seems to contemplate a condition wherein the issue of warrants to pay depositors of failed banks may be regarded as for the present the normal method of making such payment.

This brings us to a consideration of Oklahoma legislation since the article in this Journal three years ago. In 1911, there was an amendment of the guaranty act providing that trust companies should not have the benefit of the act and providing that the guaranty fund, when collected, should be deposited with the bank by which it was paid, and that a special certificate, or certificates, should be issued therefor to the Bank Commissioner, such certificates bearing interest at 4 per cent per annum. Changes made by the act of 1913 have been very important. The state banks had found intolerable a condition under which they had been assessed four and one-half per cent of their deposits in five years, and they told the politicians that if they would place

the State Banking Board in the hands of the bankers themselves, the bankers would serve without salary. The act, therefore, provides for the organization of the State Bankers' Association with one representative from each bank. This association nominates three persons from whom the Governor is to choose the Bank Commissioner and nine persons from whom the Governor is to select three other members of the Banking Board. The Commissioner and the three other members so selected are the Board. This is the first instance in America of conferring upon a Bankers' Association the power of making nominations for public offices.

The three members of the Banking Board selected by the Governor from the nominees of the Bankers' Association are John J. Gerlach, A. D. Kennedy, and W. F. Barber, all recognized as sound and experienced bankers.

Under the act of 1909, the Banking Board had authority to levy emergency assessments up to two per cent of the average daily deposits, but the Board had never dared to make emergency assessments exceeding one per cent. It is now provided that the regular assessments of one-fifth of one per cent of deposits shall not be exceeded except in the fiscal years 1914, 1915 and 1916, when the assessments may reach two-fifths of one per cent. Oklahoma State bankers are inclined to regard this as a great improvement in the law. It may be doubted, however, whether any law which diminishes the amount of taxation permissible for the replenishment of an insolvent fund can be regarded as an improvement. It is significant that the permanent guaranty fund to be accumulated is now reduced to two per cent of deposits instead of five, altho practically neither amount could be reached for years, if ever.

The new law follows the Nebraska law in not collecting the assessments until they are needed. Nebraska banks enter the amounts of the assessments on their books to the credit of the State Banking Board. Oklahoma banks pay with cashier's checks, not bearing interest, and the checks are to be held by the Banking Board till needed. It is not an element of strength in any insurance scheme to leave the collection of premiums until a loss occurs. One supposes that cashier's checks are taken instead of book credits in the belief that bankers objecting to assessments would pay their own cashier's checks, when they might possibly refuse to pay drafts by the Banking Board against a guaranty account set up on the bank's ledger. To secure its liabilities to the Depositors' Guaranty Fund, every state bank is now required to deposit with the Board bonds or warrants equal to one per cent of its deposits, but not less than \$500 in any case. Some banks have refused to do this, but have not yet been closed for refusing.

Guaranty Fund Warrants can now legally be issued to any concern that will take them instead of merely to depositors of failed banks, as the law read before. That is, the Board can borrow money and so pay depositors in cash. State bankers, therefore, say that they have funded their debt. To make a market for the warrants, they are made legal security for public funds and for any deposits which foreign corporations are required to make in the office of the State Treasurer. Further, they are made non-taxable for any purpose whatever. Any bank may deduct its holdings of Depositors' Guaranty Fund Warrants when returning its capital for taxation. Such are the means employed to bolster up the paper of the guaranty system.

The criminal provisions of the banking laws were greatly strengthened because it had been found in practice almost impossible to obtain convictions for bank wrecking. Juries are sympathetic because, up to date, no depositor of a state bank has lost any money; and since no one in the community has lost anything the atmosphere is not favorable to the administration of punishment.¹

These constantly recurring losses in Oklahoma City and elsewhere, aggregating \$2,000,000, have made it necessary to assess the state banks an average of one per cent per annum on their deposits, a total of about \$1,750,000. Yet the fund owed in June some \$418,926.56 of unpaid warrants with only \$35,000 on hand.² Now one per cent of deposits is from four to seven per cent of the capital of the average Oklahoma state bank, depending on the season. Such a recurrent drain in lean crop years has become unendurable. To bring this home, the following table gives special instances told the writer, the names of the banks affected being, of course, omitted.

In four years one bank with \$50,000 capital paid \$13,000 in assessments							
"	"	"	50,000	"	"	10,000	" "
"	"	"	50,000	"	"	15,000	" "
"	"	"	10,000	"	"	1,300	" "
"	"	"	15,000	"	"	3,000	" "
"	"	"	5,000	"	"	2,255	" "
"	"	"	30,000	"	"	20,000	" "

¹ "B. C. Burnett, 'Not Guilty,'"—"After a somewhat strenuous trial B. C. Burnett, one of the officers of the failed Sapulpa Bank, was declared not guilty. The bank was in bad shape about three years and was permitted to remain open by the banking board to reduce the Guaranty Fund liability, which was done. The verdict of the jury is in line with several other verdicts which established the belief that it is practically impossible to convict a banker on a loss to the Guaranty Fund. However, the Burnett case was not tried under the new law passed by the last legislature which is far more explicit and stringent than the old one." *Oklahoma Banker*, vol. IV, p. 370.

In Kansas the situation is very unlike this. There a banker accused of crime is thought to have very little chance with a jury.

² Letter from the Bank Commissioner.

The manager of the first bank in the table said to the writer: "That \$13,000 would look good now, if I had it in my surplus account." The last bank in the table has since found it necessary or desirable to merge with another institution.

Many bankers have not been satisfied to wait under such crushing burdens for the enactment of legislation limiting the emergency assessments for the guaranty fund. From January 1, 1910, to April 21, 1913, 101 state banks in Oklahoma entered the National System. A few banks had already taken this step by the opening of 1910. Only 7 more followed in that year, altho the liquidation of the Columbia Bank and Trust Company and the emergency assessment levied in connection with that failure were bitterly resented. In January, 1911, the decisions in the guaranty cases were announced and in March, a further emergency assessment of one per cent was made. During 1911, therefore, no fewer than 65 banks nationalized. The movement continued all through 1912, when 21 banks left the state system. There has been no sign of a weakening of this tendency this year, 8 banks having nationalized up to April 21st.¹ Many thought to escape assessments already levied, but the courts hold that national banks are liable for assessments levied upon them before their nationalization and while they were yet state banks. It is announced that suits will be filed to collect such levies. These 101 banks have a total capital of more than \$3,500,000, and the loss to the state system is very considerable. Besides the banks that have converted or reorganized, 10 banks, to the close of 1912, have consolidated with existing national banks. Twenty-eight of the 101 banks nationalized and 3 of the state banks that consolidated

¹ Letter from the Comptroller of the Currency.

with national banks had themselves been conversions from the national system. One of the most striking incidents of the early years of the Oklahoma experiment was the large number of banks that left the national system and entered the state system because of the increase in deposits that was observed to accrue to state banks. It is interesting to see how many of these and how many of the other state banks found the burden of guaranty assessments intolerable.

According to the reports of the Bank Commissioner, some 50 other state banks left the state system between January 1, 1910, and January 11, 1913, by liquidating or by consolidating with other state banks.

It must not be thought that all state banks have nationalized that could do so. The Bank Commissioner's report published last December shows 113 state banks with capitals of \$25,000 or more, all of them, that is, large enough to enter the national system. Doubtless some of them were otherwise not in condition to nationalize, but many, or most of them, could have done so if their officers had believed the change advantageous. Of course the little banks with capital of \$5000 to \$20,000 cannot ordinarily nationalize without raising more capital than it is convenient for their stockholders to supply, or more than their business requires. Many banks remain in the state system, and many new state banks are organized, despite the guaranty taxes.

The reports of the Bank Commissioner show that from January 1, 1910, to November 26, 1912, 114 state banks were organized with \$1,987,000 capital. New banks were organized at almost as rapid a rate during the first half of the present year. There is a craze to "start banks," and they are being organized in excess of economic need. The Bank Commissioner said a year ago that there were on file more than 300 appli-

cations for state bank charters.¹ In view of the ease with which new banks obtain deposits, their deposits being guaranteed, the numerous applications for charters were regarded as a public danger. The Commissioner, without authority, had denied some applications, and the legislation of this year has put the issuance of bank charters entirely in the discretion of the Commissioner and the Banking Board. This provision is liked by the bankers, who see danger in the organization of numerous weak banks. Certainly no one will quarrel with rigid investigation of every applicant for a bank charter. His experience, ability, and integrity should be established conclusively. But when a man of experience, ability, and integrity desires to establish a bank in a given locality, is it for any public officer to deny him the right to do so? If the organization of the bank would be a business mistake, and an unprofitable venture, has not our country grown and prospered by allowing its citizens the privilege of making their own ventures and their own mistakes? The same considerations apply to the fixing by the Bank Commissioner of the maximum rate of interest on deposits. This is done in Kansas and Oklahoma. The object is the prevention of reckless overbidding. The result is a "fixing of prices," an interference with the freedom of contract, such as has been thought unwise in modern times.²

¹ Proceedings of the Oklahoma Bankers' Association, 1912, p. 87.

² The maxima fixed by the Bank Commissioner of Oklahoma are:

3% on accounts of banks, insurance companies, etc.

3% on certificates of deposit 90 days or more.

4% on certificates of deposit 6 months or more.

4% on savings accounts.

No interest on checking accounts, except 3% on public funds.

The following table shows the drift first to the state guaranty system and then to national banking (in \$1000):—

ITEMS IN ROUND AMOUNTS FROM OKLAHOMA BANK STATEMENTS								
State banks ¹								
	Feb. 29, 1908	Nov. 16, 1909	Jan. 31, 1910	Jan. 7, 1911	Feb. 20, 1912	April 4, 1913	Aug. 9, 1913	
Number of banks.....	470	662	668	695	628	606	596	
Capital.....	6,233	10,767	10,679	11,570	9,841	9,079	8,867	
Surplus.....	580	881	1,079	1,386	1,163	1,126	1,162	
Due to banks.....	476	4,537	4,142	5,692	2,436	2,251	2,124	
Individual deposits ²	18,032	49,775	49,928	54,756	39,391	42,629	40,181	
Due from banks.....	7,529	20,659	17,670	25,129	12,380	14,217	11,779	
Cash.....	2,078	4,607	4,092	4,625	3,137	3,057	2,614	
National banks								
	Feb. 14, 1908	Nov. 16, 1909	Jan. 31, 1910	Jan. 7, 1911	Feb. 20, 1912	April 4, 1913	Aug. 9, 1913	
Number of banks.....	312	220	219	229	283	314	326	
Capital.....	12,215	10,070	9,927	10,745	12,915	13,720	14,330	
Surplus.....	3,063	2,674	2,736	2,925	3,279	3,632	3,933	
Due to banks.....	4,416	8,263	7,166	11,161	7,503	10,329	8,855	
Individual deposits ²	38,298	41,617	43,112	47,651	53,094	67,329	67,753	
U. S. Deposits.....	1,789	765	693	770	1,083	1,225	996	
Due from banks.....	14,801	16,657	15,260	20,934	17,973	25,210	21,165	
Cash.....	5,878	4,968	4,780	5,625	5,243	6,610	6,247	

¹ Includes cashier's and certified checks.

² Does not include cashier's and certified checks.

³ Includes trust companies.

The state system, beginning with 470 banks and \$25,000,000 of deposits in 1908, when the guaranty legislation went into effect, grows rapidly in number of banks and in business for three full years, until the state banks number 695 and the deposits amount to \$60,000,000. Even the failure of the Columbia Bank and Trust Company in September, 1909, does not stop the organization of new banks and the conversion of national banks into state institutions. The national banks fall off nearly 100 in number, and the deposits of those remaining show only a normal growth.

The national banks, however, begin to gain in numbers and deposits a year before the state banks begin to lose, in fact while the latter are still gaining. There were 219 national banks in January, 1910, and 326 in August, 1913. Their deposits grew from \$50,000,000 to \$76,000,000. So many state banks left the state system, and so many liquidated or failed, that the 695 of January, 1911, fell to 596 in August, 1913, while deposits decreased from \$60,000,000 in the former year to \$42,000,000 in the latter. Part of the growth of the state system from 1908 to 1911 partook of the nature of a craze. Another part was due to the inflation of loans. Much of it was sound, legitimate growth, which, as the table shows, has been maintained. There are 126 more state banks in Oklahoma than when the guaranty system went into operation, and their deposits are \$17,000,000 greater. Subsequent developments have not invalidated this conclusion stated four years ago: "Given assurance (of the safety of deposits) which it considers adequate, the public will make greater use of banks and more banks will be established."

In spite of all the failures, the people of Oklahoma have not lost faith in deposit guaranty as there administered. People have left deposits in banks that they

knew would fail. After failure many depositors have to be reminded, some of them repeatedly, to call and get their money. One of the members of the Banking Board, who was in Sapulpa when a bank failed there, says that a dog fight in the street would have drawn a bigger crowd. The people have experienced no losses from the state bank failures of the last five years. They refuse to worry over failures present and to come. It is not good for a community that under its banking system the depositor takes no thought whatever for the safety of his deposit.

Many bankers would like to see the guaranty law repealed, but recognize that repeal is for the present hopeless. Meantime they want the state to pay part of the excessive losses they have sustained in assessments for the fund. The Bank Commissioner favors having the state pay any losses in excess of the regular annual assessment of one-fifth of one per cent. He says banks would get better results in the courts if the tax-payers had a direct interest in the enforcement of the banking laws.¹ One of the members of the Banking Board issued a circular letter this year, in his private capacity, stating that the Governor of Oklahoma, Mr. Cruce, had recommended that the state should help in defraying the extraordinary expense the guaranty system had brought upon the banks. The circular called upon the banks to inaugurate a campaign for such relief.

Is this to be the end? Will the state of Oklahoma decide that the guaranty of bank deposits is impracticable, discontinue the guaranty fund, and assume its liabilities? There is little discussion of such an outcome now, but obviously the state must in some way stop the terrific drain on its banks. The boldest optimist cannot hope that the drain will cease of itself.

¹ Proceedings of the Oklahoma Bankers' Association, 1912, p. 91.

Recurrent failures and rumors that some other banks are unsound in a year when short crops make collections slow indicate little chance for the guaranty fund to pay its debts and gain a working balance. After collecting assessments of \$1,778,849.36 from the beginning of the system in 1908 to May 1, 1913, the State Banking Board had warrants outstanding June 1 of \$418,926.56, with only about \$35,000 cash on hand.¹ Abandonment or reconstruction, there are no other ways. Which of these courses will be followed depends on which takes the popular fancy, and that in turn depends on which has the most attractive advocacy. Prediction is futile.

The plan has failed, to repeat, because the loss experienced has far outrun the theoretical ratio. The reasons of the heavy losses, as they have been narrated in the foregoing discussion, may be here summarily restated: (1) The Banking Department was for a long time in politics. (2) Unsound banks were admitted and guaranteed at the outset. (3) The record of bankers has not been properly traced. (4) There has been procrastination in closing insolvent banks and timidity in the face of losses. (5) Economic conditions have been somewhat adverse. (6) The guaranty of deposits has relieved depositors of all necessity for care in selecting banks.

The first four of these reasons are not arguments against deposit guaranty, because they arise from conditions that can be corrected. Politics can be measurably eliminated from the administration of state banking departments. The records of men who wish to organize banks can be found out. Reasonably efficient bank examinations can be had, and weak banks can be closed without the wasteful temporizing that we have seen in Oklahoma. Can any guaranty plan,

¹ Letters from Hon. J. D. Lankford, Bank Commissioner.

however, withstand seasons of bad crops, and can any plan, otherwise adequate, maintain the interest of the depositor in the soundness of his bank? It is by these tests that the guaranty principle must stand or fall. A heavy presumption arises against the principle because of the failure of its application in Oklahoma. We cannot insist upon this presumption, however, until we have compared Oklahoma with the other states, whose guaranty systems have so far not collapsed. In the course of such comparison we may conjecture whether Oklahoma depositors would have retained interest in their banks if the law had provided that in the event of failures depositors should be paid only after the affairs of the banks had been wound up.

II. KANSAS

At the time of our discussion four years ago, the enforcement of the Kansas Guaranty Act had been temporarily enjoined. The injunction was dissolved by the United States Circuit Court of Appeals, and operations under the Act were resumed in 1910, altho it was not until 1911 that the case was finally decided by the Supreme Court.

Participation in the guaranty is optional with the banks, and only one guaranteed bank has failed. That was the Abilene State Bank, which was closed in September, 1910, wrecked by the defalcations of its cashier, who is now in the state penitentiary. The Kansas plan wisely provides that depositors shall not be paid until all assets, including the stockholders' liability, have been realized upon so far as possible, and the affairs of the bank wound up. In the meantime, certificates of indebtedness are issued to the depositors. In the Abilene case certificates amounting to \$46,809.75

are held by the creditors, or rather in most cases have been sold to the other Abilene banks. The other banks were satisfied to take them in order to get the business of the depositors of the failed bank, particularly as the certificates bear six per cent interest.

The assessments for the Kansas Guaranty Fund are very small. One twentieth of one per cent per annum is levied on the amount of deposits of each participating bank, less its capital and surplus. This encouragement to the provision of a substantial capital and the accumulation of a good surplus is wise; and the framers of the law fixed small assessments, believing that since losses were only payable after final liquidation, it would be unnecessary to build up a large fund soon. Besides the regular assessment, however, four emergency assessments can be levied any year, making a total of one-fourth of one per cent.

A fund has now been accumulated of \$111,159.54 and the banks have deposited \$355,977.10 in municipal bonds, school bonds, and the like to guarantee the payment of future assessments. Such deposits are required in the amount of \$500 of bonds for every \$100,000 of deposits.

Rather more than half the state banks take advantage of the possibility of having their deposits guaranteed, which is virtually to insure them in the State Guaranty Fund. The figures in June of this year stood as follows: ¹

	Number	Capital	Deposits
Guaranteed Banks	472	\$9,979,800	\$71,040,906
Unguaranteed Banks	446	8,327,500	42,707,937

Some changes have been found necessary in the law. The provision excluding from the guaranty deposits

¹ Letter from the Bank Commissioner.

bearing interest, and excluding from participation in the plan banks paying more than three per cent interest on any class of deposits have been found too stringent.¹ The law now provides that all deposits not otherwise secured shall be guaranteed. It provides further that the Bank Commissioner shall fix for each county a maximum rate which the banks in that county may pay on deposits. The Commissioner has fixed rates varying from three to five per cent, since the Kansas counties differ widely among themselves in resources and capital.² Any bank officer who shall pay interest in excess of the rate fixed by the Commissioner, or on different terms than he prescribes "shall be deemed to be reckless, and may be removed from office as provided by law."³

The rate on certificates issued to depositors in case of insolvency remains six per cent, in the case of deposits that bore no interest. In other cases, the warrants bear the same rate the depositor was to receive under his contract with the bank. As the law stood originally, the holder of a three per cent certificate of deposit would receive six per cent after the failure of the bank.⁴

Banks whose entire deposits are guaranteed, either by the Bank Depositors' Guaranty Fund of the State of Kansas or by a surety company, are now relieved from giving further security for public deposits, except the deposits of the state itself.⁵

It will now be well to examine the relative progress of the state and national banks in Kansas during the

¹ See *Quarterly Journal of Economics*, vol. xxiv, p. 351.

² William Allen White says in *The Real Issue* — "Kansas, like Gaul, is divided into three parts." These parts correspond to the Commissioner's classification of 3, 4, and 5 per cent counties.

³ *Laws of Kansas, 1911*, chap. 61, secs. 1 and 2.

⁴ *Ibid.*, chap. 62.

⁵ *Ibid.*, chap. 63.

time it has been possible for the state banks to have their deposits guaranteed.

BANK ORGANIZATIONS

	State Banks Organized		State Banks Nationalized	
	Number	Capital	Number	Capital
Two years ending Sept. 1, 1910	128	\$2,173,000	4	\$79,500
" " " Sept. 1, 1912	56	1,061,000	5	100,000

NATIONAL BANKS ORGANIZED

(Including Conversions of State Banks)

	Number	Capital
Year ending Oct. 31, 1909	5	\$315,000
" " Oct. 31, 1910	5	165,000
" " Oct. 31, 1911	4	120,000
" " Oct. 31, 1912	2	55,000

ITEMS FROM BANK STATEMENTS IN ROUND AMOUNTS

<i>State Banks</i>	<i>Sept. 29, 1909</i>	<i>Sept. 4, 1913</i>
Number of banks	819	928
Capital	\$15,810,000	\$18,995,00
Surplus	4,957,000	7,717,000
Deposits	97,217,000	118,170,000
Cash and due from banks	36,528,000	42,023,000
 <i>National Banks</i>	 <i>Nov. 16, 1909</i>	 <i>Aug. 9, 1913</i>
Number of banks	206	213
Capital	\$11,992,000	\$12,312,000
Surplus	4,887,000	6,149,000
Deposits	83,785,000	88,255,000
U. S. Deposits	651,000	1,031,000
Cash and due from banks	28,960,000	31,088,000

The increase in the number of state banks is striking. The guaranty system may have been an influence in the organization of some of the new banks, but rarely the moving cause. Deposits are not guaranteed until banks are a year old. Most of the new banks in Kansas, as well as in other Western states, are small institutions, so small that they could not have entered the national

system. The typical capital of a new bank continues to be \$10,000, altho, of course, state banks are chartered occasionally with much larger capital. Deposits in national banks increased fully as much as in state banks between 1909 and 1913, and, by proportion more, altho in the meantime the largest national bank in Kansas had moved a few hundred yards into Missouri.

Many of the national banks and a few of the state banks have insured their deposits in the Bankers' Deposit Guaranty and Surety Company of Topeka, a corporation originally formed largely to counteract the influence of the state guaranty law, which was expected to attract business to state banks. The Company is not pushing the deposit insurance feature of its business, however, altho it has never had a loss. It is understood to insure the deposits of about 100 banks, practically the same number it insured three or four years ago.

It is significant that the number of banks participating in the Depositors' Guaranty Fund is increasing.¹ The fact that they cannot participate for a year after they are organized means that the banks now coming into the scheme have decided, after opportunity to consider the matter, that the guaranty of their deposits by the state fund will increase their deposits somewhat, or make their deposits rather more stable, or both. It is not that the sign "Deposits Guaranteed by Bank Depositors' Guaranty Fund of the State of Kansas" draws business in quantity from the other banks, as it did in Oklahoma in the first year or two of the experiment. It is that occasionally a deposit comes in from a man who, the cashier knows, would not have patronized the bank if its deposits had not been under guaranty. Or a deposit remains for a time whose

¹ Letter from the Bank Commissioner.

owner would have made haste to use it in the days when every bank lived to itself alone.

If any system of insuring deposits in a fund administered by the state is to endure, it should have some of the features of the Kansas guaranty plan. The allowance for capital and surplus and the payment of depositors at the final liquidation only are admirable. It is unwise that the Guaranty Fund should be limited to \$500,000, for there are many single banks in Kansas with deposits larger than that sum, and half a million is too small a reserve for \$70,000,000 of risks. It is still more unwise that the assessments while the fund is being accumulated should be only one-twentieth of one per cent per annum. That rate is theoretically good, but it builds up the fund far too slowly.

Further comments on the Kansas scheme can best be made after a study of Nebraska and Texas.

III. NEBRASKA

It is now fifteen years since a national bank failed in Nebraska. It is eight years and more since a state bank failed, and then the depositors lost only \$2,000. "In Nebraska," writes Mr. E. R. Gurney of Fremont, a keen observer, "we have a population of mixed races, a very large percentage, however, running to foreign born. These foreign people are hard working, economical and almost always good pay. Their notes in most any bank can be approved. Moreover, our state has reached an age where stability is the rule, and more than all other circumstances, is the fact that we have had a capable and vigorous administration of our State Banking Department for something like fifteen years past. Our banks, therefore, are sound from the standpoint of the assets and also from the influence of supervision."

It is true that in many Western states, the foreign born farmers are regarded as more certain payers than the Americans. Less venturesome, they are sometimes better risks for the banker, even if, or probably because, they are satisfied with modest results. If they develop a country less rapidly than Americans develop it, their progress is steadier and their notes in bank are not subject to so many vicissitudes.

What Mr. Gurney says of the Nebraska Banking Department is also true. The Secretary of the Board, Mr. Royse, has done such excellent work that the changing state administrations of ten years have wisely kept him continuously in office.

The time when the Nebraska deposit guaranty act of 1909 was to take effect had not arrived when the United States Circuit Court enjoined the state officials from putting it into operation. The Act was upheld by the Supreme Court, however, with the Oklahoma and Kansas statutes, and the first assessment was collected July 1, 1911.

The legislature had made a few amendments in April, but the working plan was essentially that adopted in 1909. There were four semi-annual assessments of one-fourth of one per cent of average deposits. The last of these was paid January 1, 1913. Further assessments are one-twentieth of one per cent semi-annually, as originally provided. New banks still pay one per cent of their average deposits the first year. It is now provided that when the Guaranty Fund reaches one and one-half per cent of the deposits of the state banks, assessments shall cease until the fund is depleted below one per cent of deposits. To correct an ambiguity, the act of 1911 provided that no bank which had paid the assessments and otherwise complied with the banking laws should be required to give any further security

for public deposits. This is different from the Oklahoma plan, where special security is given and deposits specially secured are not within the guaranty.

The only important amendment adopted this year permits the investments of a bank to equal ten times its capital and surplus, instead of eight times, which was the limit fixed in 1909.

The original act of 1909 prohibited private banking and required the thirteen private banks to procure state charters or discontinue business. It made the guaranty scheme obligatory upon all state banks. These provisions are unchanged.

Where economic conditions are settled and banking stable, it is not to be expected that changes in the banking laws will effect a marked change in the disposition of accounts. Nevertheless, the reports of Nebraska banks since the United States Supreme Court decision (January 3, 1911) make an interesting study. Important items from the reports of state and national banks a year before and just after the decision are here presented in comparison with the reports of August, 1913.

ITEMS FROM BANK STATEMENTS IN ROUND AMOUNTS

<i>State Banks</i>	<i>Feb. 12, 1910</i>	<i>Feb. 17, 1911</i>	<i>Aug. 26, 1913</i>
Number of banks	664	668	710
Capital	\$12,362,000	\$12,729,000	\$14,380,000
Surplus	2,245,000	2,427,000	3,264,000
Deposits	77,991,000	74,105,000	94,194,000
Due from banks	18,726,000	19,960,000	22,924,000
Cash in banks	4,452,000	4,476,000	4,889,000
Depositors' Guaranty Fund			811,000
 <i>National Banks</i>	 <i>March 29, 1910</i>	 <i>March 7, 1911</i>	 <i>Aug. 9, 1913</i>
Number of banks	227	237	241
Capital	\$14,810,000	\$15,695,000	\$16,270,000
Surplus	6,035,000	6,784,000	10,319,000
Deposits	121,283,000	119,087,000	128,663,000
U. S. Deposits	1,060,000	1,035,000	1,241,000
Due from banks	29,479,000	33,006,000	34,103,000
Cash in bank	10,726,000	10,477,000	11,682,000

For a year before the decision was announced state banks had been nationalizing, some of them undoubtedly for the purpose of escaping the assessments. Thirteen state banks took out national charters in 1910, and 11 nationalized in 1911.¹ On the other hand, new state banks were organized pretty freely, with an eye to the prestige of guaranteed deposits. Nationalization has now ceased, for there was not an instance in Nebraska in 1912; but the organization of state banks continues.

BANK ORGANIZATIONS

	State Banks Chartered		State Banks Nationalized	
	Number	Capital	Number	Capital as State Banks
Nov. 16, 1909 to Nov. 10, 1910	28	\$420,000	13	\$630,000
Nov. 10, 1910 to Dec. 5, 1911	24	492,000	11	420,000
Dec. 5, 1911 to Nov. 26, 1912	27	775,000	0	0

NATIONAL BANKS ORGANIZED

(Including conversions)

	Number	Capital
Year ending Oct. 31, 1910.....	20	\$880,000
" " Oct. 31, 1911.....	12	1,195,000
" " Oct. 31, 1912.....	1	25,000

On account of nationalizations and liquidations, the state banks lost ten in number between the February and June reports in 1911, at the time the guaranty law was going into effect, and their deposits fell off more than \$2,000,000. From March to June of that year the national banks increased by eight, and their deposits by \$1,400,000. Since that time the state banks seem to have been somewhat preferred. The table shows that they have gained forty-two in number and \$20,000,000 in deposits in two years and a half, while the increase

¹ Letter from the Deputy Comptroller of the Currency, April 23, 1913.

for the national banks is only four in number and about \$9,500,000 in deposits.

It would seem that some of the state bankers now see a little benefit arising from the guaranty scheme. When it was first projected they were bitter over any plan that would tax them to pay the losses of other bankers. There have been no losses, however, and gradually a few extra deposits have come in, — not deposits of large amounts, but here and there \$2,000 or \$3,000 from people who would not have been expected as depositors, at least as depositors in a state bank without the guaranty. Most of the state bankers have now dropped their active fight on the guaranty plan, and more than a few seem pleased with the way it is working. They are advertising the guaranty on their checks and deposit tickets, and making the most of the system they formerly opposed.

The figures show that the national banks, while not growing so fast as the state banks, have suffered no drain. The national bankers say that the deposits that have left them for the guaranteed state banks have been scarcely perceptible. In a state where no national bank has failed in fifteen years, it would have been surprising to find that state bank guaranty had made national bank depositors uneasy.

The virtual acquiescence of the state bankers is due in part to the fact that no money has been taken out of their banks. The assessments are merely set aside as deposits to the credit of the State Banking Board. The bankers regard this account as a special surplus, and so, in a sense it is; but it is a common surplus, and when it is drawn upon (for Nebraska cannot always escape failures), there will be disappointment and possibilities of trouble. The failure to collect assessments, to get the taxes out of the hands of the taxed

banks, still seems a defect in the Nebraska law, altho the bankers like it.

Another defect is the provision for paying depositors as soon as a bank fails, or as soon as the receiver has calculated how much cash he must draw from the guaranty fund to supplement the cash in the failed bank. The failure of the Oklahoma plan was due to this same provision as much as to any one cause. A series of failures would require immediate large expenditures from the fund, and make emergency assessments necessary. But a series of failures would come, if at all, at a time when all banks were hard up, and when an emergency tax would be a burden and perhaps a danger.

The Nebraska plan is good in that it has accumulated a fund of nearly \$1,000,000. It is bad in that it leaves this fund with the very banks that have it to pay, and in that it promises to pay deposits immediately on failure.

It is to be observed, however, that under the administration of the Nebraska banking department the promise to pay depositors immediately on failure seems not to have caused reckless banking. And, as bearing on the existence of a need of deposit guaranty or insurance, the fact that deposits in state banks are guaranteed is found to influence deposits somewhat, even in a state where bank failures have for years been unknown.

IV. TEXAS

The deposit Guaranty Act of Texas has never been attacked in court. It has been in operation since January 1, 1910, and the results must be called favorable so far. The fiscal year of the Texas banking department ends August 31st. No bank failed at all the first year. One failed the second year, two the third

year and three between August 31, 1912, and the present date (October 9, 1913).

Taking the failures in their order, the Harris County Bank and Trust Company of Houston suspended August 7, 1911, and the examiner uncovered forgeries, false entries, and paper placed in the bank for fraudulent purposes. The president left before he could be apprehended. The guaranty fund was drawn on for \$111,649.90 and an emergency assessment for that amount was levied on the guaranteed banks. In 1912, however, a 50 per cent dividend was paid to creditors, and half the assessments returned to the banks.¹

The Paige State Bank, capitalized at \$10,000, was taken over by the banking department early in 1912, because the president had placed \$19,000 of worthless paper in the bank. The guaranty fund was called upon for \$13,697.90.²

The last bank that has cost the fund anything is the First State Bank of Kopperl. It was closed December 6, 1912. Then it was discovered that S. J. Spotts, the president, had been previously convicted of violation of the National Bank Act, and had served a term in a Federal prison. Spotts was found in Los Angeles, was brought back to Texas for trial, and on a plea of guilty was sentenced to four years in the state penitentiary. The deposits of the bank were \$16,000 and in paying them \$8,000 was used from the guaranty fund.³

The three banks that failed subsequently were liquidated without calling upon the fund.⁴ The guaranty fund has, therefore, paid only \$133,347.80 on account

¹ Report of Commissioner of Insurance and Banking, 1911-12, p. 19.

² *Ibid.*, p. 21.

³ *Ibid.*, p. 19.

⁴ Telegram from W. W. Collier, Commissioner.

of failed banks in about four years, and has recovered more than \$55,000 of that amount. The showing is considered excellent, and new banks have been organized in large numbers to keep up with the rapid growth of the state. For the fiscal year 1911, 109 state banks and trust companies with capital of \$2,522,000 were authorized to begin business. The next year the number was 77 with \$3,169,000 capital, but 8 of these were trust companies with \$100,000 or more capital each. The 8 had together more than half of the total new capital of the year. The typical new organizations were still banks with the minimum capital permitted, \$10,000. In the fiscal year 1912, 23 state institutions with \$1,110,000 capital were incorporated.¹

The Texas banking report for 1913 is not yet at hand, but new organizations must have been numerous, for the number of state banks and trust companies increased from 709 in June, 1912, to 776 in April, 1913. For comparison, the statistics of national bank organizations are here set down. The new banks include conversions of state banks. The data as to the new banks are for the years ending October 31st, and as to the conversions, for calendar years.

	NATIONAL BANKS ORGANIZED		STATE BANKS CHANGED TO NATIONAL BANKS	
	Number	Capital	Number	Capital as National Banks
1910.....	14	\$1,875,000	2	\$140,000
1911.....	21	1,255,000	4	215,000
1912.....	16	2,650,000	6	425,000

Obviously bankers are not afraid to organize under the state system and remain in it, and yet a considerable amount of capital is being invested in national banking. A comparison of bank statements tells much the same

¹ Report of the Commissioner of Insurance and Banking, 1911-12.

story of satisfaction with both systems as administered in Texas, the state system being apparently somewhat preferred.

ITEMS IN ROUND AMOUNTS FROM TEXAS BANK STATEMENTS

<i>State banks</i> ¹	<i>Nov. 16, 1909</i>	<i>April 4, 1913</i>
Number of banks.....	502	776
Capital.....	\$ 16,114,000	\$ 29,451,000
Surplus.....	1,475,000	5,806,000
Due to banks.....	6,541,000	7,664,000
Individual deposits.....	43,328,000	86,485,000
Due from banks.....	18,051,000	27,556,000
Cash.....	5,324,000	9,281,000
 <i>National banks</i>	 <i>Nov. 16, 1909</i>	 <i>April 4, 1913</i>
Number of banks.....	519	514
Capital.....	\$ 42,393,000	\$ 49,625,000
Surplus.....	19,551,000	25,592,000
Due to Banks.....	38,744,000	52,209,000
Individual deposits.....	164,618,000	209,411,000
U. S. Deposits.....	1,137,000	2,043,000
Due from banks.....	59,693,000	80,167,000
Cash.....	22,314,000	26,535,000

It appears that since the enactment of the guaranty law, the state banks have increased fifty per cent in number and their deposits have doubled. There were five more national banks in 1909 than in 1913, but individual deposits in national banks have increased twenty-five per cent and if we could make the comparison after the cotton is marketed this fall, a still larger growth would appear.

Nominally it is optional with Texas banks whether or not they shall have their deposits guaranteed. Any bank may, if its directors prefer, file annually with the Commissioner of Insurance and Banking "a bond, policy of insurance, or other guaranty of indemnity" equal to its capital stock, or, if it is a private bank, "in

¹ Includes Trust Companies.

an amount to be fixed by the Commissioner." This option has not proved attractive, however. A bond or policy procured from a bonding or an insurance company is expensive, and it is embarrassing to ask friends, customers, or even directors, to make the bond. Furthermore, a bond with individual sureties has little effect in attracting or reassuring depositors. In 1909, only 42 banks had elected to furnish bonds. In 1912, the number was only 53.

It has not been found necessary to change the original guaranty law materially. It still provides for an initial assessment of one per cent of deposits, and for subsequent assessments of one-fourth of one per cent per annum, with power to levy emergency assessments, not exceeding two per cent in any year, in case the fund is diminished. Assessments are to cease when the fund reaches \$2,000,000. The fund is now, October 9, 1913, \$778,824.¹

The legislature this year, following the example of Kansas and Oklahoma, has provided that the State Banking Board shall refuse charters for new banks where there is not public necessity for them.

Much of the credit for the apparent success of the guaranty system in Texas is accorded to Mr. B. L. Gill, who was Commissioner of Insurance and Banking from January, 1911, to this summer.

Texas, with its rapid economic development and its hundreds of new banks, subject to all sorts of vicissitudes, can scarcely hope always to get off so luckily in failures. The organization of a great many banks during a time of rapid settlement and development has, in other states, been followed almost always by losses to a considerable number of banks and by some bank failures. A good fund is being accumulated in Texas,

¹ Telegram from the Commissioner.

however, and the banking department seems to be efficiently organized and administered. The state banking system is getting into position to withstand some rather heavy shocks, if they come. If they do not come too soon, the Texas guaranty plan will probably survive. This prediction could be made with some confidence if the law were amended to provide for payment of depositors only upon the final liquidation of failed banks; but no such amendment is now being urged.

V. GENERAL ARGUMENTS AND CONCLUSIONS

It is now evident that the cause of the Oklahoma bank failures was not deposit guaranty alone, but guaranty plus ineffective examinations, insufficient scrutiny of the previous records of bankers, and unfavorable economic conditions following the period of settlement and rapid growth. This is shown by the fact that in the other states where deposits are guaranteed failures have been few.

The guaranty system has given opportunities to some reckless and criminal bankers in Oklahoma, but it has not turned honest bankers into rogues there, or in the other states we have studied. Deposit guaranty is not stockholders' insurance. Stockholders must lose their whole investment before the guaranty fund suffers any loss, and there is, therefore, not even a financial incentive for a good banker to become a rascal. He may be tempted by guaranteed competition into an unwonted, perhaps unwise liberality, but not to a dangerous extent, if we can judge by the present experience of Kansas, Nebraska, and Texas.

It remains to consider what are the best methods of guaranteeing deposits and whether, in fact, such

guaranty is desirable at all. It is unnecessary here to repeat the arguments stated at some length in the previous article; but one suggestion then advanced should be withdrawn. Deposit insurance by private corporations was mentioned as a possible solution of the problem. But this is now evidently not the solution that is to be used, if the problem is found to be worth solving. While such corporations could select risks and limit their size and distribution, and while there is an example in Kansas of the successful operation of such a company, it is obvious, nevertheless, that if deposits are to be guaranteed or insured on any considerable scale, it will be through the banking departments of the states or conceivably of the United States. The efforts to organize other deposit insurance companies and put them in operation have not met with success. The Kansas example remains solitary.

The stimulus to reckless banking is not the chief danger to the success of deposit guaranty. Kansas, Nebraska, and Texas have so far repressed such tendencies. A greater danger has just been mentioned, the impossibility of limiting the size of single risks or avoiding the concentration of risks in single localities. Whether this danger will prove fatal to the success of the plan, depends largely on the size of the fund accumulated by the time the big losses occur. The Oklahoma fund is insolvent now. Texas is accumulating a \$2,000,000 fund, Kansas a \$500,000 fund, and Nebraska a fund of one and one-half per cent of deposits, say \$1,500,000. Each state should considerably advance the limit now fixed on its fund, and Kansas, at least, should increase its assessment rates. There would then be some probability of establishing reserves large enough to take care of as many failures as can reasonably be expected in these states under present day conditions.

Another danger, social rather than financial, is the real or supposed necessity of accompanying the establishment of the guaranty system with grants of almost despotic power to the state banking departments. The guaranty of deposits is so powerful an inducement to depositors, legislators believe, that for fear of its misuse by the incompetent or unscrupulous the banking departments are empowered not only to regulate and supervise banks, but to say what rates of interest they shall pay, and whether the citizens shall establish more banks. In some states both these powers are exercised. This may be "medieval," but, as in the question whether deposit insurance should be provided by the state or by private corporations, it is sufficient to recognize the irresistible tendency in many forms of industry toward state control. If the state can fix railroad rates, no doubt it can fix rates of interest on deposits. If it can regulate banks, no doubt the power to fix their number and forbid new organizations regarded as superfluous will be upheld. Doubtless the part of wisdom lies in trying to guide this tendency instead of fighting it.

The vital question is whether the public needs greater assurance of the safety of its deposits than can be afforded by the resources of a single bank in a single town. Any reader who may be interested will find the writer's views stated carefully in the article before referred to.¹ Even in states where banking is soundest the bare possibility of failure, and the knowledge of the blight it would bring to business plans and to household life, keeps many people from the banks. They cannot be absolutely sure. They cannot detect the few cases of unsoundness, some or all of which escape bank examiners, business men among the customers, and the

¹ *Quarterly Journal of Economics*, vol. xxiv, pp. 373 et seq.

directors themselves. There is, therefore, even in the most prosperous days, a good deal of hoarding, and, what is worse, a failure to use the modern labor-saving machinery of exchange. Some additional business comes to guaranteed banks even in states of settled economic and social conditions, like Kansas and Nebraska. The scheme would not have been tried but for the vivid memory of the distress caused by the suspension of cash payments in 1907. Once in force, the plan seems to bring satisfaction to some depositors.

The plan does not spread. Many other state legislatures debated it in the first few years, but less is heard of it now. South Dakota, as we anticipated, has left its plan unused.¹ It would take many failures close together, or a pretty general suspension of payments, to bring about the adoption of the plan now where it is not already in force. If Congress provides an effective method of mobilizing reserves and providing ready credit on farmers' paper, little will be heard of guaranty for some time.

This is not to say that Kansas, Nebraska, and Texas will discontinue the plan. Unless it is causing losses and weaknesses underneath the surface, and the writer cannot find that such is the case, there is not likely to be much agitation for repeal in these three states. In some of them, at least, guaranty funds will be accumulated sufficient to permit of the continuance of the system. Whether the plan will gradually be adopted in other states depends on the force of the present social tendency to distribute more widely, by legislation, the good and evil of life. Workingmen's compensation is analogous. The tendency underlying this legislation and the guaranty legislation seems to the writer exceedingly strong. If this is so, a state here and there will

¹ *Ibid.*, vol. xxiv, p. 360.

from time to time supplement its service of bank regulation and supervision by enabling, if not requiring, the banks to effect insurance in a state-administered fund for the benefit of depositors.

Such insurance is more needed in some localities than in others and should be optional with the banks. If an old bank with large deposits is satisfied to rest on the reputation it has been years in building, it would be wrong to make it pay taxes or premiums to provide for the depositors of other banks. It is safe to say that once such legislation is in force, there will be banks to take the insurance or accept the guaranty. The state for the present will be doing enough for depositors when it enables those who are not sure of the stability of banks to do business with banks whose deposits are insured.

The insurance should not be paid or the guaranty redeemed, until, as in Kansas, the assets are finally liquidated and the bank wound up. To try to pay when the banks close is to attempt the impossible. Economy and social policy alike favor the Kansas plan, for the delay stipulated in payment will keep the depositor from such carelessness in choosing his banker as has been seen in Oklahoma. This is true even if the depositor believes that other bankers would probably cash his guaranty fund certificates in case his own bank failed.

The fund must be large, — not less than two per cent of deposits and larger than that in states where there are several banks with deposits many times the average. Other features desirable in deposit guaranty legislation have been sufficiently discussed in the foregoing pages.

Bank failures have not been the chief defect in American banking. The immobility of reserves and the lack of proper mechanism for the seasonal expansion and

contraction of credits have been far greater. Mobilizing the reserves and providing elastic credits will solve many problems. Our banking system, nevertheless, will remain individual, and our banks numerous and independent beyond anything known abroad. The possibility of failures will be ever in the thought of many, and occasional failures will be inevitable. How to minimize the resulting social and financial loss will remain a problem worthy of the efforts of banker and economist.

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THE SOCIAL POINT OF VIEW IN ECONOMICS. I

SUMMARY

I. Importance of the distinction between individual and social points of view, 115. — II. General meaning of the social point of view, 121. — 1. What is society ? 121. — (1) Social-contract theory, 122. — (2) Social-organism theory, 123. — (3) Common-consciousness theory, 126. — (4) Conscious-commonness theory, 128. — 2. The application of the concept of society, 132. — (1) Society as a whole, 133. — (2) The social individual, 133. — III. The special meaning of the social point of view in economics, 136.

I. IMPORTANCE OF THE DISTINCTION BETWEEN INDIVIDUAL AND SOCIAL POINTS OF VIEW

ECONOMICS is beset with "nice distinctions," leading well nigh to strangulation by definitions. Some of these, however, are of fundamental importance, and among such is the distinction between the individual and the social points of view. In this paper an attempt is made to demonstrate the fundamental importance of this distinction, and to indicate its logical significance. In another paper the distinction will be further developed in an applied way, and an attempt will be made to work out a true and consistent use of "the social point of view," with regard to the main economic concepts.

At the very threshold of economic analysis we are met by the troublesome concept of "wealth," and almost immediately, as we attempt to gain a measurable material with which to work, we realize that what is

regarded as wealth by the individual is not necessarily regarded as wealth from the point of view of the whole group of which the individual is a member. In defining wealth to an inquiring class, what teacher has not had to fall back upon difference in point of view? And so it is with "income." Of course the idea of production of wealth must vary where the concept of wealth itself varies, and from the beginning of economic science differences of opinion as to what activities are "productive" have existed. Those who have insisted that wealth is material have logically enough taken an individual point of view; for, according to that point of view, the significance of exchangeability among individuals is emphasized. The same thinkers have frequently ascribed productivity solely to those who work on tangible commodities.¹ It will be observed, too, that it is in accord with the fact that generally material things alone are the object of theft, that your thoroughgoing individualist can class predatory activities as productive. At the other extreme stand those whom we may call societists. These men generally include a great variety of intangible elements and services in wealth, and logically enough they emphasize not a stock of material goods but productive *power or capacity* (as a source of income). Their concept of production is correspondingly broad. Such ideas are represented by the Nationalist, Friedrich List.

Again, the problem of value has been called the heart of economic analysis; and is it not? But who

¹ According to an individual point of view, wealth must be exchangeable and appropriable by individuals. These qualities, together, almost necessitate the exclusion of immaterial items. Of course, there is a fringe of such intangible items as good-will, franchises, and other claims to things: but these are recognised by all to be in a different class, as their transferability is more limited and their possession more precarious. Moreover, an individualist does not necessarily mean one who entirely overlooks society (in a certain sense, as an aggregate of individuals) and so the duplication involved in including claims with material things has been seen by most individualists.

does not know that some economists have regarded value as an objective quality or ratio derived from a comparison of unrelated individual estimates, while others speak of "social value" and regard it as caused and determined directly by estimations of society. And, following the same bent, one group considers marginal utility as a purely individual phenomenon and demand as the sum of individual demands, while another group considers marginal utility and demand as more or less purely social phenomena.

Now wealth and value are fundamental concepts, — the very basis of economic science. These two points of view cannot exist with regard to the fundamentals without permeating the whole science. Accordingly, in less fundamental concepts and principles, we find differences among economists, and discrepancies in usage by the same economists, which a little analysis shows to be based upon the difference between the social and the individual points of view. Take the idea of capital, for instance. Capital being a form of wealth, the tendency to correlate material and individual on the one hand, and intangible and social on the other hand, works in a way similar to that found in the treatment of wealth, and there is a similar fringe of appropriable intangibles that are in a doubtful category. The distinction, however, has appeared most notably of late in a tendency toward regarding capital as an abstract fund of income-yielding property which may be embodied in land, machines, or other concrete goods. This, we are told, is in accordance with the usage of the business man. True. And the business man is an individual, — an individual whose usage is not wont to be based upon a realization of the beauties of society. Those economists, however, who hold to the idea that capital consists of concrete

instruments produced by man are taking a social point of view. To the individual business man it is apt to appear that land can be made, and is limited in supply. He can invest his capital in it just as he can in machinery. But to a social group as a whole, being more comprehensive than any individual, the limitations of land supply and its special adaptations become more manifest and important; and the individual's conception of investment and income does not apply. The principle of diminishing returns, also, has been variously treated according as the writer was reasoning from an individual or a social point of view. From the latter standpoint, it is generally taken to mean diminishing quantities of produce in a technological way; from the former, diminishing quantities of value, with or without change in output or yield. The reason for this is not far to seek. For society, — so would run the reason, if it were formulated, — the significant thing is the amount of physical products on hand to gratify wants, and the more the merrier; but the individual grows "wealthy" by reason of the scarcity of his commodity, which causes it to command a high price; therefore, it is the technological diminution of returns that concerns society as a whole, and exchange-value diminution concerns single individuals.

The concept of cost also furnishes a good illustration of the way in which one's point of view colors one's theory. Thus, to the individualist it seems that "opportunity" forgone constitutes a cost, and accordingly we find him and uncritical followers introducing the notion of "opportunity cost."¹ This, as the writer has shown elsewhere, is the result of overlooking, on the one hand, the social significance of cost in limiting supply; and, on the other, of stopping short with the

¹ See Haney, "Opportunity Cost," *American Economic Review*, vol. ii, no. 3.

entrepreneur or some other individual, thus failing to consider the broader ultimate factors. In a similar way, the notion that rent is a cost of production in the same sense that payments for labor and capital are costs is a product of an individual point of view which regards the individual's alternative use for his land as an ultimate determining fact.¹

Finally, the nature and scope of the science as a whole is affected. Do not some economists write as tho there were no society, and ever keep the individual first; while others begin by vociferously insisting that economics is a social science, and always keep the individual subordinate to society? But, after all, how many proceed from any clear understanding of what societies and individuals are?

It will generally be found, too, that those who emphasize society in a certain way — as a separate entity — are apt to inject a large element of ethics into their thinking. This is natural enough, for if society exists as a separate entity, the chance for clashes of interest between it and the individual are multiplied, and the ethical doctrine of self sacrifice is necessarily invoked.

There is no need to multiply instances. Probably not an economic category, concerning which economists have differed, has failed to vary in connotation and denotation because of differences in the points of view of those who used it.

The reader may already have thought of instances in which the same economist has used two definitions or followed two trains of reasoning, one of which, according to the preceding analysis, would indicate a social point of view, the other an individualistic way of looking at things. But is such inconsistency

¹ See the writer's article on "Rent and Price, 'Alternative Use,' and 'Scarcity Value,'" in this Journal, vol. xxiv, pp. 119 ff.

rare? Closer examination must convince him that it is most common for confusion to arise when the significance — nay the very existence — of a distinction is not actually realized. Thus, when we find entrepreneur standpoint in distribution and social standpoint in value (Seager?), or business man's concept of capital together with social-organism concept of value (Clark), or opportunity cost listed with pain cost, or narrow individualistic "laws" of production jostling broad ethical precepts of distribution and use, we may be surprised, but none the less convinced that confusion has reigned over greater or less domains.

Another way of bringing out the importance of this matter is to reflect that the nature of society must affect individual action — the two being interdependent — and so affect most economic laws. Indeed the laws of all social sciences must proceed from some concept of society. This is illustrated by the differences among the conclusions of economists who hold different notions concerning the nature of society. Does society come first, and exist as a separate entity superior to the individual, or *vice versa*? Is it based upon contract, instinct, imitation, or rational consciousness of like interests? Upon the answer to these questions the economist's treatment of his science and the nature of its laws must in large part depend.

Dr. Schumpeter, it is true, has dismissed this subject as unimportant for pure economic theory.¹ Briefly, his ground is that economists need not bother themselves with a consideration of motives and sub- or super-individual *activities*. But, even aside from the not unimportant point that economists have in fact taken these things into consideration and in consequence have reached different conclusions, the ques-

¹ Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie, chap. vi.

tions remain, what is an individual? What are individual acts? The matter is by no means so simple as Dr. Schumpeter seems to think. There *are* two things (however closely interrelated): "individual" and "society." Accordingly, there *are* at least two points of view which may be taken toward nearly all economic goods and activities. Even the concept of an individual self is not practically separable from that of other individual selves. In short, the distinction between the individual and the social points of view exists in the nature of things and must be reckoned with in its particular manifestations by each of the social sciences.

II. THE GENERAL MEANING OF THE SOCIAL POINT OF VIEW

1. *What is Society?*

Thus far the expression "a social point of view," has been used. This has been done advisedly; for what *the* social point of view is depends upon each thinker's concept of society. There may be as many social points of view as there are viewers. On this subject an unusual degree of confusion has existed, because there has been no attempt by economists to grasp clearly the true nature of society and then apply it in a logically consistent way in their thinking. As a first step it seems desirable to attempt a broad classification of the most important general concepts of "society" and "social."

At least four concepts of society in general have influenced economists, consciously or unconsciously, in their theories, and are worthy of consideration. First come two extreme concepts, one ancient, the

other of relatively recent date; and these will be familiar to most economists. I refer to the "social-contract" and the "social-organism" theories.

(1) The *social-contract* theory may be briefly disposed of; for probably no one now holds it in its pure form. Nevertheless it exerted no small influence upon early economists. According to this theory, originally no society existed and a more or less unmodified individualism reigned. Such was the state of nature described by Hobbes, Locke, and Rousseau. Society, the thought of which was not separated from that of the state, was formed by a voluntary, deliberate agreement among its individual members. Thus society was an abstract something entirely separate from its members. The individual came first; and, conscious self-interest having been the cause of society, it remained the moving force. Only such phases of individual life were embraced in the social existence as might be necessary for protecting the lives and property of the individuals concerned, and the governmental aspect of social action was decidedly the dominant one. The theory, as it found expression in the thought of the Classicists, meant an extreme, rationalistic individualism; which, in turn, meant a tendency toward certain theories of wealth, value, productivity, as indicated above. Of course there are different brands of individualism, just as there are of socialism. The distinguishing marks of the older social-contract individualism were its rationalism and its mechanical character. Men were supposed to be guided by self-interest and, as the self was looked upon as a material atom exclusive of other selves, each self's interests were apt to clash with those of other selves — and of society.¹ Naturally the limitations of natural resources

¹ Fite, Individualism.

and costs were emphasized, and the possibilities of organization were given little attention.

(2) At the other extreme comes the concept of society as a *social organism*. Sometimes this concept is based on mysticism, sometimes on biological analogy, sometimes on historical continuity; but always, as in the social-contract concept, those who hold it are apt to fall back upon the "natural" in explanation. Society is thought of as an entity which is either separate from its members (Clark) or fused with them (Schaeffle). The reason for its structure and purpose are to be found within itself. Society comes first and all economic activities are thought of as social processes. All phases of social life are fused. As found in the thought of typical socialistic, nationalistic, and sociological economists, the social-organism theory leads to an extreme "societism" and to a submerging of the individual. Differences among individuals are overlooked as insignificant, including both differences in capacity and in possession. Indeed, it is a general criticism of the thought of these theorists that they reason either as tho there were a communistic state or a uniformity of individuals. Thus they seek to grasp and to balance "social utility" and "social cost" *directly and immediately*, as tho society existed as some conscious entity apart from or above individual units. Instead of composing demand and supply from individual marginal utilities and disutilities they would draw curves for society as a whole directly. Those who are socialists assume a "just" (equal?) distribution and so are able to disregard important existing inequalities; but those who accept the existing system must resort to some idea of organic harmony or to an average. The individual, then, instead of being guided by self-interest, acts as a cell which is nourished

and controlled by social processes, and harmony comes not through clash of interests but through identity.

The preceding theories are now of relatively slight importance: one is dead, the other is rapidly dying. Both are alike in that they set the individual over against society. They both rest upon metaphysical bases, the one assuming a natural state of individual freedom, the other a natural social organism. In the one the individual is a mechanical atom; in the other he is a subordinate cell. Yes, in one, value is measured by contract labor cost, and in the other by social labor cost (Clark). Truly, extremes meet!

Of late, however, there has come into prominence a more refined (and less extreme) modification of the social-organism theory, which is based upon psychological analysis and centers in discussions of the "social mind." As worked out by Professor Cooley¹ and followed by Dr. Anderson,² this refined psychological theory is less liable to lead to unsound results, and with most of what its proponents say no fault is to be found. Indeed, with these writers the discussion may become a mere quibble over the meaning of the word "organism." The danger lies in an over-emphasis of society. Thus, the Professor Cooley surely speaks well when he says that the individual is a differentiated center of psychical life, having a world of his own into which no other individual can fully enter (p. 9), and that the "social mind" is the expression of a vital co-operation of individuals (page 4), he also says that the individual's acts are *the outcome of the whole* (page 4). Dr. Anderson's statement of the case appears to include more of the cruder biological idea. "Society is an

¹ Cooley, C. H., *Social Organisation*, 1909 (1912 edition cited).

² Anderson, B. M., *Social Value*, 1911.

organism," he says (page 83); and goes on to argue that this is true because (a) an organism has different parts with different functions, which parts (b) are interdependent, and (c) it has a central theme, not externally imposed, to the working-out of which the different parts contribute. But in what sense has *society* these things? ¹ Hardly in the sense that the individual organism has them, or in any ordinary sense of the word organism. Can an organism be made up of parts which are themselves organisms? Do the parts of an organism, interdependent and co-operating as they are, each duplicate the complete round of functions of the organism as a whole? Whence does society get its "central theme," and what is that theme? Does it not come from the conscious co-operation of potentially independent individuals, and is it not the well-being of those individuals? It is logical, perhaps, to talk of a central theme of society, if we regard it as the harmony of co-operating individuals; but we cannot stop there, for the question remains, whence comes this co-operative harmony? — and the answer takes us to the individual. Of course this gets us into a circle, but circles have centers and starting points, and for purposes of analysing social valuations we must work out from and back to individual estimations. Dr. Anderson goes on to state that there is a social mind; and that individual differences among the minds of men rather prove the *organic* character of the social mind, by introducing the fact of differentiation. (As tho differences in parts could make an organism!) And then, integration being obviously necessary, he adds: "The integrating element is found in the points which the individual minds have in common" (page

¹ See Coker, F. W., *Organismic Theories of the State*, Columbia Studies, vol. xxxviii, no. 2.

85). But this gives us but a mechanical integration: a mere identity of minds constitutes no living thing or organism, but a blind commonness of states of consciousness. Dr. Anderson himself says that his social "organism — or the parts — is not necessarily conscious" of the social theme. Few if any thinkers would now deny the existence of differentiation; the rub comes in the manner of the integration.

Writers of this new psychological school have done excellent service in emphasizing social institutions and the interrelation of ethical, political, and economic values; but they seem to forget that this emphasis can be accomplished without regarding society as an organism. While criticising economists for taking individual activities as ultimate data,¹ they are themselves too prone to take social institutions, fashions, social values, society itself, for granted, and so to dismiss the question of priority of individual and society as unimportant, forgetting that what is unimportant in *time* may in *logic* involve the true social point of view.

There remain at least two other theories of society which are worthy of more serious attention. The first of these may be called:

(3) The common-content-of-consciousness theory, or for short the *common-consciousness* theory. Passing over the sub-varieties of this theory for the present, we note first that it comes nearer to being a rational theory than either of those mentioned above; for it does not rest upon an assumed natural condition, individual or organic. According to it, society, — which is thought of as having always existed where men have had relations with one another, — is the

¹ Cooley, "The Institutional Character of Pecuniary Valuation," *American Journal of Sociology*, January, 1913.

necessary and normal result of an evolutionary process, whereby certain instincts arise and are molded so as to lead men to take on such relations as constitute society. Society, then, is regarded not as something separate from the individual, but as the summation of those parts of individual consciousnesses which are alike. Such phases of individual consciousness are embraced in social life as are the result of a common experience and inheritance. Society thus arises naturally from, and is limited by, the fact of a common content of consciousness. Perhaps this concept is illustrated best by the thought of those members of the historical school who have held to what is, after all, a rather mechanical idea of development; for a little reflection shows one that it considers the individual as an exclusive fragment bound to other individual fragments by a chance similarity and not by any interpenetrating consciousness of that similarity. After all, according to this theory, the social point of view means a sort of average of mechanically related units, — human units, but still an average. Therefore, if it is to be applied to present-day civilization, it is open in some degree to the same criticism as the preceding theories on the score of virtually overlooking the differences among individuals.

Two degrees of this common-consciousness theory may be distinguished. (a) Apparently some thinkers go no further than to regard society as merely built up of individuals. The individuals are thought of as absolute and ultimate bundles of innate instincts. Those who, consciously or unconsciously, have this conception would logically think of social demand as a mere sum of individual demands, and would freely add and average in a mechanical, arithmetic way. (b) But others, while holding a similar idea of the origin

of society, would evidently attach more positive significance to its existence. They would regard society as reacting upon the individuals who compose it, conditioning them and molding their states of consciousness. Thus, social demand would express, in part, the reaction of the social relationship upon the content of the individual's consciousness. It is the latter variety which lays such emphasis upon imitation. Social leaders suggest styles, fashions, customs, which the individual is thought of as more or less blindly following. Without being conscious of the nature of his relations to society, the individual is positively affected thereby, through his ability to sell to others and his desire for their esteem. I believe that most economists of the present day tacitly assume a "society" of this latter type.

(4) Finally, we come to the *conscious-commonness* theory, so to call it. One who holds this theory will see the origin of society in the reflective consciousness of the individuals concerned, — a consciousness which embraces the fact of a commonness of the contents of the various individual consciousnesses. Instead of regarding the individual as a mere mechanical fragment of consciousness, one will think of him as being conscious of his interrelations with his fellows, and so doubly bound to them. Society and the individual, far from being separate, will be inseparable aspects of a complex whole, neither one coming first nor standing above the other; but, through the conscious interaction of individuals, the one will be seen in the many, and the many in the one. Thus, this theory contains the element of truth found in the social-organism theory.

It follows that differences among individuals — whether innate differences in efficiency or acquired

differences in wealth — are recognized. Not only are they not overlooked, but they are not avoided by any mathematical jugglery, for the way is seen to lie open for a conscious adjustment of necessary differences. Society means co-ordination, — harmonious adjustment. Not an average; not the fusion; not the identity; but the co-operation of individuals makes society. Consequently, individual self-interest and social interest are capable of being harmonized; for, if we assume intelligence, it is clear that each member of society, being conscious (*a*) of his relations to others, and perhaps (*b*) of their similar consciousness of their relations to him, must recognize the interdependence of their common interests, and understand that the maximum of well-being is to be gained by co-operation with his fellows.

The conscious-commonness theory makes the scope of society depend, not upon mere blind common content derived more or less passively from common environment, but upon mutual consciousness of that commonness of content. It makes social life include such phases of individual consciousness as are consciously held in common. It follows that society, so defined, may be in one way narrower than the preceding concept, while in another way it may be broader. This is true, first, because the number of individuals who are capable of appreciating their interrelations with others is more limited; and, second, because the number is not, on the other hand, restricted by the character of experience and environment. On the contrary, by means of education and interchange of ideas, all sorts of individuals from all sorts of environments may be embraced in a community of consciously common ideas.

As in the case of the "common-consciousness theory," two degrees of the conscious-commonness theory may

be distinguished. (1) Some may regard the members of society as merely conscious of the existence of like *ideas* in the minds of their fellows; (2) others may go further, and make society depend upon a consciousness of like *interests and purposes*, and a consciousness not merely that those like interests and purposes exist but that each one is conscious that every other is aware of his interests and purposes. The first degree, obviously, is less positive, and leads to the concept of a less active society. Society is thought of as merely conditioning and molding individuals. The second degree, however, is that of a positively active society, in which the existence of a mutual reflective consciousness of common feelings, beliefs, and desires becomes a moving force, leading to active co-operation. Thus, we may call this higher degree of the conscious-commonness idea the "*conscious-co-operation*" theory.

As held by some philosophical, neo-classical, and eclectic economists, this idea of society finds expression, for instance, in an ability to harmonize government interference with individual initiative, — social control with private property. Likewise, competition is neither praised nor blamed, but given a more or less limited place according to its workings. And the law of diminishing productivity is strictly confined to a non-historical application, for it is realized that by intelligent co-operation constant progress may rationally be assumed.

To suggest somewhat more of the economic significance of the last two main concepts of society, it may be said that, according to both, the social point of view as to valuation means a balancing of individual marginal utilities and disutilities. No such thing as margin of utility for society is recognized; but it is clearly seen that, to some extent, the fact of social rela-

tionships reacts upon individual marginal utilities. Social policy is to be determined by a summation of interrelated and mutually influenced individual valuations. The two concepts differ in that according to the one the individual is not rationally aware of this balancing process, being blindly led by instinct or imitation, while according to the other each is aware. Consequently the latter means a much closer and more plastic relationship among the marginal utilities of individuals.

There are, then, four general ways of looking at society. Of these, the two first mentioned may be discarded as unsound. The last two, together with their various shades or degrees of difference, contain within themselves the true concept. When one asks which of these is the true one, and which the true sub-variety, I think one must recognize an element of truth in each. Is it not a mere question of fact? The lowest forms of society are instinctive, like the colonies of ants and bees. The highest forms are based upon an intelligent consciousness of common interests, as in the highest development of human group life. Between the two lie the stages of an evolution. Of these stages I have but indicated four: —

- | | | |
|--------------------------|---|-----------------------------------|
| I. Common consciousness | { | 1. Common instincts. |
| | | 2. Imitative commonness. |
| II. Conscious commonness | { | 3. Consciousness of common ideas. |
| | | 4. Conscious co-operation. |

Thus the question as to what concept of society should be involved in the economist's "social point of view" depends upon the facts as to the kind of society to which his thought applies. If the group concerned is of a low order of development, innate instincts and emotions (gregarious, parental, reproductive, acquisitive, of display) are the dominant forces. If the stage of "mob action" exists, a stage

in which leaders are the great forces, and imitation (a complex group of instincts?) is the prominent factor, we still have a low order of society. If the society, however, is one in which each is conscious of a common mass of ideas, sentiments, and beliefs, we have a distinctly higher order of relationships; and when this consciousness embraces a realization of common interests and purposes, the highest stage is attained, in which the social point of view means a large measure of direct and conscious co-operation.¹

As a matter of fact the highest societies known today involve no small element of instinctive action; that is, our real individuals are in part creatures of instinct. Education is covering over the instinct basis gradually, the result being a highly complex mass of motives and sanctions. If existing society were based solely upon instinct or solely upon conscious co-operation, the analysis of the social sciences would be vastly simplified, and we could make economics an exact science. As it is, motives are so mixed and divergent—some being instinctive, others rational—that when we seek to make any ultimate analysis we are either prevented, or, by abstraction, reason on the assumption of some one of the single concepts indicated above.

2. The Application of the concept of Society

As if the foregoing were not complicated enough, one soon finds in the definition and use of economic terms at least two ways of applying the various concepts of society. (1) Thus, one writer, whichever one of the four concepts he may choose, in applying the social point of view may mean the point of view of a

¹ It may be interesting to note that in the first stages, individualism, materialism, a negative concept of society, and the idea of a necessary clash of interests, all are logical; and these ideas characterise the thought of those whose social point of view means society in those stages. But each higher stage is a limitation upon individualism and materialism, and a step toward a more positive concept of society.

society as a whole, — a sort of anthropomorphic concept of society. He thinks of society and individuals as separate entities, and his individual — and he himself — takes a social point of view through a feat of altruistic gymnastics called self sacrifice. This, as Spencer puts it, involves “a combined action which directly seeks and subserves the welfare of the society as a whole, and indirectly subserves the welfare of individuals by protecting the society.”¹ Such a writer, it is clear, has in mind the *aggregate* wealth or activity of the group as a whole. Looking at society in this way, he is apt to think of it as occupying a certain territorial area. Often he really means a given nation, thus falling into the old error of confusing “society” with the “state.” He comes to deal with the “wealth of nations” literally, and hopelessly confuses economics and politics.

(2) But another writer, in using the words “social point of view,” may mean something quite different, namely a *relation among the individuals* who compose the group, be it society or nation. He means, not the aggregate wealth of the whole group, but wealth considered from the point of view of an individual who conforms to the group’s standards, — who is an integral part of the society.

Thus, the one application does not concern the individual directly, and considers an aggregate; the other starts with the individual, but limits or modifies his motives and possessions by putting him into a complex of social relations. Nor, in the latter application, are the welfare of the individual and the welfare of the society separated.

I am inclined to believe that a good deal of confusion has crept into economic reasoning as a result of failing to distinguish these two possible uses of the idea of

¹ Spencer, *Principles of Sociology*, vol. ii, p. 247 (N.Y., 1891).

"social"; and that possibly a consistent resort to the latter use will open the way for a more sane and lifelike treatment of economic problems. According to it, "from the social point of view" would mean from the point of view of an individual who, being sensible of a likeness between the content of his consciousness and that of the consciousnesses of his fellows, acts in accord with that sensibility. Or, put more objectively, the social point of view is the point of view of *an individual who, being conscious of a mass of feelings, beliefs, and purposes which he shares with those with whom he comes in contact, acts in such a way as to preserve society.* Put either way, the idea is the same: things are seen through the eyes of a sentient and conscious *individual who is aware of an interdependence among the members of his group, including himself, and consequently, to some extent, co-operates with them.* What acts are to be excluded is not necessary to decide here. The question must be more or less relative. Suffice it to say that, if we take the broad stand of society in general, all activities which violate the morals, laws, or economy of a society tend to destroy society, and are anti-social; a social individual would not engage in such, and consequently they are not in accord with a social point of view. Two things are certain: (1) One cannot escape the simple fact that only the individual can experience costs and utilities and make valuations, for he alone is the seat of a nervous system and sensations. (2) The individual is a product of heredity and environment, and through both he is molded by those relations with his fellows which we call social. In view of these facts, the only logical recourse seems to be to look at economic facts and forces through the eyes of an individual considered as an integral part of a society, — the "social individual." This would free us both from atomistic

individualism and from organismic societism. The one-sidedness of both individualism and socialism becomes apparent. The conclusion, then, is that for most purposes we should adopt what may be called "*the social-individual point of view.*"

As already implied, the "social individual" may be thought of as a member of any kind of society, and the social-individual point of view is, therefore, but a means of applying one's concept of society, that concept being the primary consideration. Thus, to take but a single case, if one takes the "conscious-commonness" theory, one's social individual is always thought of as a person who is more or less intelligently conscious of the ideas of his fellows, and is far removed from being a mechanical fragment or atom. He is always a part of society in the sense that he so acts upon and is reacted upon by his fellows that all are interdependent, and he knows it. Nothing is assumed as to his equality with them, nor as to his natural position in a social organism. He values things in view of his relations to others. He may be more or less selfish — as the psychologist may decide — but by the economist his wealth-getting-and-using activities are taken for granted so long as they are consistent with a consciousness of the existence of similarly conscious fellows.

From the social-individual point of view, predatory and other anti-social activities not being recognized, the Peruna and burglar's-jimmy problems would be quickly and correctly solved. They would hardly be problems! Of course, "wealth" would be somewhat narrower in scope than the non-social individual might wish. On the other hand, merely acquisitive activities would be given a logical recognition: if based upon free exchange, the social individual's activities may add to his wealth without adding to that of his fellows. Does

he not thereby gain for the efficient at the expense of the inefficient, even tho the "wealth-of-society-as-a-whole" is not increased?

III. THE SPECIAL MEANING OF THE SOCIAL POINT OF VIEW IN ECONOMICS

But after one has taken any of the four ideas of society, and has decided whether to look at things from the point of view of a society as a whole, or that of a "social individual," the question remains, how much of society should one include? What should be the content of one's social point of view? Is the social individual to be the "economic man"? Not only do we generally reason more or less abstractly by assuming, consciously or unconsciously, some one of the various concepts of society; but we also usually are forced to make our reasoning still more abstract by limiting the content of the idea of society. We do this by considering only a part — or, better, an aspect — of the content of individual consciousness which is held in common.

Social life, of course, has many modes; and there are many centers of conscious activity which, as it were, form the points of contact between the consciousnesses of those individuals who form a society. The more of these centers that are thought of as embraced in the common consciousness, the richer the concept of society, tho probably the fewer the individuals included. To be more concrete, we often speak of various "worlds" such as the "literary world," "the world of art," "the world of business." Then there are "racial ties," "social whirls," and the like. Common language, racial temperament, religion, and the like, tho not essential, facilitate the formation and existence of these societies. Perhaps the most important of the social "worlds" center in religion, ethics, economics,

government, and art, using these terms very broadly. Accordingly, the social point of view might be based upon a society including all these worlds, or aspects of consciousness, so that its members would act and react effectively upon one another from many angles. This would be the broadest social point of view, — the one for “sociology.” Should it be taken by the economist? Here we meet a question akin to the old one concerning the inclusion of ethical and political considerations in economic analysis.

It seems clear that the economist’s social point of view should include only the economic aspect of society. For the same reason that “utility” and “wealth” are generally regarded as non-ethical concepts, the economist, as such, should be limited by a wise division of labor to that aspect of the common content of individual consciousnesses which concerns men’s relations to things of limited supply that they desire. Just as economics is concerned only with those individual acts that concern wealth (including services), so its social point of view posits an economic society.

An economic society may be defined as a group of individuals who are mutually dependent upon a common or interrelated supply of economic goods. If it is as highly developed as are most economic societies today, it becomes a group bound together by mutual consciousness of the desirability of exchange, and is based upon a conscious appreciation of the importance of the interrelation as a means of gratifying the wants of the individuals concerned. It thus ceases to be based upon a quasi-mechanical exchange of goods.

Such a society may or may not coincide with a “world of art” or a “race.” It is not confined to national bounds. Indeed, it may be narrower in extent than a nation. Are not England and the United States and Canada embraced in a single economic

society? And was the South in 1860 not more a part of England's economic society than of that of the North? Probably dreams of universal peace will come most nearly being realized as a result of the growth of a highly developed world-wide economic society, — an international consciousness of common economic interests.

Thus, to take a special case, wealth, from a truly economic social point of view, should be defined without regard to the artist's, the statesman's, or the prophet's official valuations. Obviously, there can be many different attitudes towards the things that the economist calls wealth. Wealth exists as an objective fact; but each social science approaches it from a different angle of vision, and, while to the student of ethics it is one of many "good" or "bad" things, and to the statesman one of many means to the end of the security and political well-being of the citizen, to the economist it is the whole external world of scarce, want-gratifying things. To be sure, he must know that men desire certain scarce things partly because they think them right or politically expedient, which, put in other words, is to say that the economic world — being a part of other worlds, all interpenetrating — is modified in scope by those other worlds; but he takes his world as he finds it, and his society is none the less economic. Thus, his social point of view does not mean an ethical one, even tho the influence of ethics is not to be excluded.

This does not mean that the economic society is peopled with mythical "economic men"; but it does mean that the economist's society is that aspect of society or societies taken as a whole which centers in economic relations, and that ethical or other motives are of interest to him only as posited data which may aid him in understanding the course of men's wealth-

getting-and-using *activities*. It may, however, be said to mean a true economic man in the shape of an economically social individual who lives in accord with the mutual dependence and consciousness of the desirability of exchange which characterize the economic aspect of society, — the economic world.

In fine, I conclude that the true meaning of the social point of view, as most expedient for the economist, is as follows: it is the point of view of an individual who is conscious of an interdependence among those with whom he comes in contact relative to all scarce utilities, and who consequently acts so as to co-operate with them in producing and consuming such utilities. It is the point of view from which the individual is seen as the conscious unit of a group whose members are interrelated by commonness of content of consciousness with regard to wealth. Proceeding from the individual consciousness, the economist's social point of view concerns a relationship among individuals based upon exchange. Society and individual are synthesized. This I have called the social-individual point of view.

Whether convinced of the soundness and expediency of the foregoing conclusions or not, the reader can hardly fail to admit that a true social point of view for economics must be founded upon (1) a true concept of society in general, (2) a true concept of "social," as involving the application of the concept of society, and (3) a true concept of "economic society" in particular. It is the writer's earnest desire to see such concepts adopted and consistently followed by economists.

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THE KARTELL MOVEMENT IN THE GERMAN POTASH INDUSTRY¹

SUMMARY

I. Introductory. The German monopoly of natural resources, 140. — The different salts, 142. — Output and exports, 143. — II. Early agreements, 145. — The first syndicate (1888), 148. — III. The second and third syndicates (1898-1904), 151. — IV. The syndicate of 1904-09, 153. — Organization as a stock company; form of management, 156. — Increase in number of mines and difficult allocation of quotas, 158. — The Sollstedt mine and American purchasers, 160. — Continued increase in facilities, 164. — V. Negotiations for renewal, 1908-10, 168. — Failure in 1909, 174. — Contracts by independents with Americans, 175. — Law of 1910, giving imperial control over production and prices, 177. — Syndicate renewed in 1910, 179. — VI. The Potash Controversy between Germany and the United States, 179. — Terms of settlement, 181. — VII. Working of the Potash law of 1910, 182. — No check to increase of mines, 183. — VIII. Conclusion, 186.

I. INTRODUCTORY

THE actual source of the world's potash supply is at present in the deposits of potash salts found in northern Germany. The great Stassfurt potash industry is based on the presence of those salts in the

¹ Among recent publications on the subject, the following have been especially helpful:

Krische, Dr. Paul, "Die Verwertung des Kalis," in *Industrie und Landwirtschaft*, 1908.

Stange, Dr. A., *Fünfsig Jahre Deutschlands Kali-industrie*, Jubilaeumsschrift, 1911.

Parmann, H., *Die Kali-industrie in ihrer Bedeutung und Entwicklung*, 1899.

Pfeiffer, E., *Handbuch der Kali-industrie*, 1887.

Pasow, Dr., *Materialien des wirtschaftlichen Studiums*, bd. ii.

Groth, L. A., *The Potash Salts*, 1902.

so-called Magdeburg-Halberstadt rock salt basin.¹ Smaller and commercially unimportant are the deposits of the same type found in Galicia, Chili, Persia, and Eastern Asia. Germany thus possesses a practically complete monopoly of potash salts. Their solubility and the ease with which they can be converted into concentrated products are the qualities which have made the world envious of Germany's possession of this great resource.²

The story of the discovery and development of these deposits is interesting. For hundreds of years salt springs had attracted attention in the Stassfurt region. At length, after a number of unsuccessful attempts in the decade 1850 to 1860, rock salt was discovered after penetrating several strata of peculiar bitter salts. The salts designated "Abraumsalze," were regarded as worthless, — an obstruction to the mining of rock salt. Professor Marchand showed that they contained certain valuable elements, whereupon the Prussian government started to sink a shaft in 1858 for the purpose of mining them. Small quantities of the crude salts were subjected to a process of concentration and sold for industrial uses. The success which attended the opening of the Prussian mine induced the Grand

Schulze, H., *Die Chemische Industrie in Deutschland*, 1908.

Schönemann, *Die deutsche Kali-industrie und das Kaligesetz*, 1911.

Heimann, R., "Die neuere Entwicklung der Kali-industrie und des Kalisyndikats," in *Schmoller's Jahrbuch*, 1906.

Engelke, G., *Das deutsche Kalikartell in seiner Entwicklung und gegenwärtigen Gestalt*. Schriften des Vereins für Sozialpolitik, bd. ix, 1894.

Valuable material is found also in the *Kartell-Rundschau* (since 1903); the *Kartell-Jahrbuch* (bd. i, ii); the *Berliner Jahrbücher für Handel und Industrie* (published by the Aeltesten der Kaufmannschaft, since 1903); the *Deutsche Oekonomist*; and the *Drucksachen des deutschen Reichstages*.

¹ See brief description in Engelke (p. 45), Heimann (p. 1489), and in the books of Kriesche, Paxmann, and Pfeiffer. I refer to these sources also for the historical sketch that follows.

² On the various endeavors, all virtually unsuccessful, to find sources of potash supply in the United States, see *Fertilizer Resources of the United States*, prepared by the U. S. Department of Agriculture and published as Senate Document 190, 62d Congress, 2d Session (1912).

Duchy of Anhalt to open a second one, which began operations in 1862. But the value of the "Abraum-salze" was immensely enhanced when, after a series of painstaking investigations, Dr. Frank, assisted by Justus von Liebig, demonstrated their value for fertilizing purposes. These discoveries inaugurated a new era for the Stassfurt industry, which now, by reason of its lower cost of production, possessed a great advantage over other sources of potash. The price of muriate of potash, which ranged from \$75 to \$100 per metric ton in 1862, fell to one-third that price in 1864 and 1865.

At present only the potash salts with the highest potash content are mined. Of these, the most important are carnallite, kainite, hard salts, and sylvin. Carnallite is a hydrated double salt of muriate of potash and magnesium chloride, used especially as the basic salt for concentration into muriate of potash. Kainite is also a double salt containing potash in the form of sulphates and chlorides of potash mixed with sulphates and chlorides of magnesium. It is more valuable than carnallite and can be used directly as a fertilizer. Hard salts are a mixture of kieserite and kainite with sylvin. Sylvin is the most valuable of all the crude salts. Like hard salts it finds its chief employment in industry, while kainite is used chiefly in agriculture.

In the export trade the concentrated salts play a much more important part than the crude salts. Muriate of potash (KCl) is the most important, being used in immense quantities as a fertilizer for sugar beet, cotton, and other crops. Sulphate of potash (K_2SO_4) is manufactured in smaller quantities, of which a large part is absorbed by tobacco culture in the United States. Such potash products as carbonate of potash, manure salts, and the crude salts, bergkieserit, sylvinite, schönite, are of less importance.

The annual output of the German potash industry shows an extraordinary increase during the past half century, as is indicated by the following table:—

OUTPUT OF POTASH SALTS¹

	In 1000 Metric Tons	Value in 1000 Marks
1862.	19.8	340
1870.	291.9	2,628
1880.	665.9	6,783
1890.	1274.9	16,500
1900.	3050.6	39,111
1905.	5043.5	60,391
1909.	7042.0	81,655

The production of muriate of potash also shows large increases. A significant change in the demand appears in the fact that, whereas in 1861 no potash was sold for agricultural purposes, by 1880 agriculture took 42.5 per cent of the total output and in 1905, 84.5 per cent. Altho the consumption of potash in the glass, soap, and other industries has increased in absolute amounts from year to year, it forms relatively a steadily diminishing portion.²

The United States is the largest consumer of potash outside of Germany itself. The increase in the importation of potash during the past twenty-five years has been marked. Owing to the frequent changes in classification it is difficult to obtain a comparable set of figures; but for muriate of potash, the most important of the products imported, the increase since 1884 has been nearly ten-fold.³ Sulphate of potash and manure salts show a slower but still significant growth.

¹ Compiled by Schönemann from *Vierteljahrshefte sur Statistik des Deutschen Reiches*.

² New York Financial and Commercial Chronicle, vol. x, p. 630, contains an interesting note in this connection.

³ Value, 1884, \$729,484; 1912, \$7,239,109.

Nevertheless, the American consumption per acre of tillable land is as yet only one-eighth of the consumption in Germany. Three-fourths of the potash imported into the United States is used in the Atlantic and South Central states, in the form of commercial fertilizer, of which potash is a constituent.¹

The potash trade in the United States is handled by the New York agency of the potash syndicate. Several groups of buyers may be distinguished.² First, the powerful fertilizer manufacturing corporations, of which the largest are the American Agricultural Chemical Co., of New York, and the Virginia-Carolina Chemical Co., of Richmond, both organized in the late nineties as combinations of existing fertilizer concerns. To these was added, in 1909, the International Agricultural Corporation, a result of the developments of 1906-09, which led the so-called independents to combine.³ The Virginia company owns a controlling interest in the Einigkeit potash mine in Germany, while up to the end of 1912, the International owned the Sollstedt mine. A second group of potash buyers is formed by the large packing houses, which buy potash for their fertilizer plants, and the smaller independent fertilizer manufacturers. Finally there are manufacturers of chemicals, dry mixers and jobbers of fertilizer, farmers' associations, and local dealers.

¹ Cf. 12th Census, vol. v, p. cxxxix; Kriesche, pp. 154-157; Stange, pp. 154-155.

² Kartell-Rundschau, vol. ix, p. 83.

³ For a history of the attempts which preceded, consult *American Fertilizer*, April, 1909; and July, 1909, p. 23.

II. EARLY AGREEMENTS. THE FIRST SYNDICATE (1889-1898) ¹

Following the entry of the two fiscal potash mines into the field of potash production, the factories established by private individuals for the manufacture and concentration of the crude salts began in 1864 and 1865 to outstrip the capacity of the market to absorb their products. The number of enterprises had increased from three in 1862, to eleven in 1863 and eighteen in 1865. Commercial depression and over-production resulted in the failure of nearly a third of the companies in the latter year. Rapid recovery and subsequent prosperity again brought about, in 1871 and 1872, an increase of manufacturing facilities not warranted by demand. The decline in the price of muriate of potash which began in 1872, and lasted until 1874, put a number of factories out of business.² The pressure toward some sort of combination led to an agreement between the manufacturers in 1876, whereby prices were to be fixed weekly by a commission. With the resumption of prosperity in the following year, several of the members withdrew and the agreement came to an end.

In contrast, the development of the potash mines up to 1875 was one of steady progress.³ But in that year, a third mine at Westeregeln, and a fourth, New-Stassfurt, in 1877, deprived the fiscal mines of Prussia and Anhalt of their monopoly in the production of crude salts. In view of the fact that any one of the four mines could, if necessary, supply the total demand, the

¹ In addition to the works already cited reference may be made to the *Denkschrift über das Kartellwesen*, bd. i, 1906, p. 77. The *Kartell-Rundschau* has given, since 1903, an account of current events in the potash syndicate.

² Pfeiffer, pp. 105 et seq.; Krische, p. 79.

³ Paxmann, pp. 36 et seq.; Krische, pp. 79 et seq.

fiscal mines did not relish the idea of unrestrained competition. The expected happened. The alternative of free competition and low prices, sure to entail serious losses upon all of the mines, and eventually ruin to some, was rejected for combination. With the active coöperation of the Prussian fisc, the four mines, Stassfurt (Prussian fisc), Leopoldshall (Anhalt fisc), New-Stassfurt and Westeregeln, agreed to limit for five years the output of carnallite intended for concentration into refined salts.¹ Certain provisions as to the price of crude salts were included, but it was left open to the factories to fix the prices for concentrated products.² Between the three kainite producing mines a similar agreement was concluded in April, 1879, fixing prices and the total amount to be mined by each member.³

The success of the potash mines was an incentive to the investment of capital in new enterprises of the same sort. A mine at Aschersleben began operations in 1882, and threatened to rob those already in the field of their market. Westeregeln's notice in June, 1883, of withdrawal from the carnallite agreement led to its dissolution in October. However, after some negotiation efforts at securing a new agreement were successful, and on October 21, 1883, representatives of the five mines signed contracts renewing the previous one. As the Aschersleben mine also produced kainite, the necessary revision of the kainite agreement was made and Aschersleben became a member in 1884.⁴

¹ Also Engelke, p. 7.

² The proportion of the total output allotted to each mine was as follows:

Prussian Fisc	50 %
Anhalt Fisc	27.5%
New-Stassfurt	10 %
Westeregeln	12.5%

(Krische, p. 79.)

³ Krische, p. 80; Schönemann, p. 6.

⁴ Schönemann, pp. 6, 7; Krische, p. 80; Engelke, p. 9.

At the time a seventh mine, Hercynia at Vienenburg, became a party to the carnallite agreement, several changes were made. Special privileges, that of fixing the price of crude salts sold to the factories, and the right to veto a reduction or increase in allotments, were conceded to the Prussian government. The price-fixing privilege was of small importance except to the fiscal mines, since the private mines supplied only their own factories operated in connection with the mines.¹

Shortly after the renewal of the carnallite agreement in 1883, the manufacturers of muriate of potash formed an association for marketing concentrated products.² As the supply of raw material was fixed by the mine owners, no restriction of production was necessary. The organization, somewhat more elaborate than in previous agreements, provided for a central sales office through which all the manufacturers agreed to market their products. The manager of the sales office, acting according to instructions formulated by a representative commission of manufacturers, effected sales, received orders, and assigned them to the members as nearly as possible in proportion to the quantities of raw material assigned to them by the mine owners' association. Occasional excesses or deficits were to be adjusted semi-annually. The commission fixed the price of muriate of potash, but could raise it only with the consent of the Prussian fisc.

The potash industry prospered during the decade following the formation of the first agreement. The combination, including as it did all the producers, had been able to keep up prices and, at the same time, increase the demand for potash. The addition of three new mines had not been a disturbing factor. The

¹ Engelke, pp. 8-10.

² Schönmann, p. 7; Kriesche, p. 80; Engelke, p. 9.

advantages of regulation had become too evident to allow a return of free competition upon the expiration of existing agreements. Strengthened by observation of the results of competition which had taken place between the pooled and independent muriate factories in the American market, the opinion became prevalent that a renewal of existing contracts was insufficient and that all products, crude and refined, should be included in a new and firmer agreement. Finally there was formed, during September and October, 1888, the first all-embracing potash Kartell or syndicate, upon the basis of seven separate contracts or agreements, the first four of which related to crude salts, the last three to refined products.¹

The members of the syndicate proper were mine owners exclusively. Owners of special factories (*i. e.* factories not operated in connection with any particular mine) who were members of the muriate agreement of 1883, were compelled to observe the conditions prescribed in the last three contracts as to the production and sale of concentrated products. In return, they were assured an exclusive supply of raw material for the greater part of the syndicate's duration of ten years, with the warning that they would be cut off from all supplies if they were found to encourage the establishment of a new potash mine. The output of the special factories had been steadily decreasing, and when the Prussian fisc, which had operated no factory of its own, withdrew formally from the existing agreements to establish a factory in 1887, the business of the special factories had decreased to such an extent that they offered to pay the Anhalt fisc higher than current prices in order to secure crude salts. Consequently in 1888, the assurance of raw material was welcome to them.

¹ For a description of the contracts, see Kriesche, p. 81; Schönemann, p. 7; Engelke, pp. 12, 13.

The first two of the seven contracts (designated Ia and IIa) dealt with carnallite. A commission of representatives from the seven mines fixed the total amount to be mined and allotted it by percentage shares to the individual mines.¹ Minor provisions regulated the raising and lowering of quotas. Kainite containing 12.4% pure potash was chosen as a basis for the calculation of allotments. The kainite contracts (IIa and IIb) dealt similarly with the allotment of production, but since kainite, unlike carnallite, is sold in its crude state for agricultural purposes, its sale was placed in the charge of a central sales office, the producers agreeing to make no independent sales, to observe the terms of sale fixed by the central office, and to make regular and accurate reports. Selling prices were fixed by a committee of the associated mine owners, subject, however, to certain privileges conceded to the Prussian Minister of Commerce and Industry. He was given the right to name special prices for the supply used in domestic agriculture, whenever it should seem advisable in order to increase sales, or necessary for the welfare of German agriculture. The detailed provisions for the temporary transfer of allotments during disturbances in operation need not be mentioned here.

The last three contracts (Ic, Id, IIc) had substantially the same aim as the others, — the elimination of competition and the prevention of over-production. The special factories together with the factories of the mine owners were all subjected to the restrictions of a central

¹ The allotment in 1888 stood as follows: — (Schönemann p. 7).

Stassfurt	18 13/15%
Aschersleben	14 8/15%
Herzyna	7 3/15%
Leopoldshall	14 8/15%
Westeregeln	14 8/15%
New-Stassfurt	14 8/15%
Ludwig II	10 12/15%

sales agency, the orders being assigned and adjustments made as under former agreements. Prices and rebates were fixed by a general commission which was also empowered to dispose of quantities of muriate of potash, at specially low prices, or gratis, for propaganda purposes to chemists for experiment, for exhibitions, for the support of agricultural trade papers and the like. This was the beginning of a type of endeavor which has been most effective.

Since the administration of each of the basic agreements was in the charge of a separate committee, the management proved so unwieldy as to necessitate a reorganization in 1891. A centralized administration was introduced.¹ The general management, of which the representative of the Prussian fiscal mine was *ex officio* chairman, obtained broader powers; while a general commission, consisting of one representative from each mine, performed the duties of the several committees under the old arrangement, fixing prices, deciding important questions of organization and distribution, and imposing penalties for breach of contract. The general or business management was divided into three departments, each headed by an assistant director. One of these took charge of the domestic business and the transactions between the syndicate and the individual mines; another took the export trade; and the third, the statistical work and the propaganda movement. As before, orders were received and assigned and adjustments made at the central offices. The syndicate, which now styled itself "Verkaufssyndikat zu Leopoldshall-Stassfurt," established agencies in several German and foreign cities, while in others it gave certain dealers exclusive control. Up to 1893, the American trade had been controlled by two exclusive

¹ Schönemann, p. 9; Engelke, pp. 2 et seq.

dealers, but the syndicate's dissatisfaction with the growth of the American demand under their direction led to the establishment of a special agency in New York.¹

During this syndicate period (1888-98) five new mines became members of the syndicate.² The fever of speculation from 1895 to 1898 did not pass the potash industry by. It is said that over a hundred boring companies were in operation and many shafts were sunk. The failure of not a few companies, and the depression at the close of the decade, led to the abandonment of many of the enterprises.³ But in general the syndicate succeeded in increasing the sales of potash and in steadying the market. Tho it was not able to avoid over-production entirely during the difficult years, 1892-93, it prevented the industry from experiencing the worst effects. On the ground that the existing facilities were too large, the Prussian government advocated a restriction upon the establishment of new mines. The policy of restriction did not appeal to the legislature at that time. The debate on the 18th and 19th of April, 1894, in the Abgeordnetenhaus, was concerned chiefly with the question of whether or not the Prussian fisc would have influence enough, should restriction be adopted, to secure lower prices for domestic industry and agriculture; it ended with the rejection of a proposed law.

III. THE SECOND AND THIRD SYNDICATES (1898-1904)

As might be expected, little opposition developed when the question of the continuance of the syndicate

¹ Engelke, p. 24.

² Kriesche, p. 84.

³ The Mineral Industry, vol. vii, p. 571.

came up for decision in 1898. The agreement of that year differed from the preceding one in that a single comprehensive contract took the place of seven. The products were divided into four groups according to their potash content. The management of the syndicate was given greater freedom and authority by the adoption of the stock company form. Instead of a commission consisting of a representative from each mine, a supervisory council of fewer members was created. During the three year existence of the second syndicate, five mines were added to the membership.

Again, in 1901, renewal of the syndicate upon substantially the same basis as in 1898 was effected without difficulty. The opposition which was manifested concerned mainly the question of the admission of new mines into the syndicate. It was becoming apparent that the number of mines was increasing more rapidly than it was possible for the syndicate to increase sales.¹

After 1901, however, the situation became serious. The depression of 1901 and 1902 resulted in a decrease of the syndicate's business, the effects of which were accentuated by the entrance of new mines.² From seven mines in 1888 and twelve in 1898, the number of producing mines had risen to twenty-four in 1902 and twenty-eight in 1903. The necessity of bringing all these into the syndicate, the unwillingness of the older mines to give up any part of their allotments in order to make room for new members, and the high demands of prospective members rendered the allocation of quotas a progressively difficult task. The market from 1902 to 1904 was unsettled. Both dealers and consumers

¹ Cf. article by Dr. Krousham, *Kartell-Rundschau*, vol. ix, pp. 1 et seq.; also *Krische*, pp. 47-52.

² *Kölnische Zeitung*, Dec. 20, 1903, quoted *K. R.*, vol. i, p. 53; and *K. R.*, vol. i, pp. 724-725.

delayed buying, toward the last, in the hope of obtaining lower prices in the event of the dissolution of the syndicate.

IV. THE SYNDICATE OF 1904-1909

Early in 1903, dealings of American potash purchasers with some of the newer mines which had not yet entered the syndicate gave rise to rumors, every disturbing to Germans, that the Americans intended to buy up potash properties and supply their own demands.¹ The subsequent entry of these mines into the syndicate quieted the fears for a short time, only to be again aroused by the report that the Virginia-Carolina Chemical Company was attempting through the Heldburg Company to obtain control of the Wintershall mine, in addition to its ownership of a controlling interest in the Einigkeit mine.² Tho this report was denounced as false it caused much resentment. It was said that the loss of the American market, which amounted to one-half of the total export trade, would be a calamity to the industry as well as lead to wanton dissipation of the natural resource.

At the instance of the Prussian fisc, negotiations aiming at the continuance of the syndicate, which expired in 1904, were taken up early, the first general meeting being called for May 8, 1903.³ This early action, hastened it is said by the reports of the American "invasion," recognized that the renewal would not be effected as easily as on previous occasions. Altho the syndicate included all the operating mines (after the entrance of the mines Hohenfels, Kaiserroda, Einigkeit,

¹ *Hannover Anzeiger* quoted K.R., vol. i, p. 487.

² *Lxxv Chron.* 81; *Lxxvi Chron.* 1098.

³ *Berliner Jahrbücher*, bd. i, 1904, p. 10.

and Bleicheroda, in January, 1903) this complete control was of short duration. Moreover the internal composition of the syndicate had been undergoing a change by the division of the members into two hostile groups, one composed of the older mines having comparatively large quotas and unwilling to submit to the decreases attendant upon the increase of syndicate membership, and the other made up of newer mines demanding larger quotas in some proportion to their alleged capacities.¹ According to a clause in the existing agreement, syndicate members were free after June 30, 1904, if renewal had not been accomplished by that date, to execute independent contracts for delivery after December 31, 1904. Consequently, all efforts were directed toward effecting a renewal by July 1, 1904, in order to avoid the complications which would inevitably arise should independent contracts be made.

At the general meeting, May 8, 1903, it was voted that the continuance of the syndicate was desirable and that the invasion of American capital must by all means be prevented. Two committees were chosen, one to discuss the draft of a new agreement, the other to take up the allotment question.² Following the admission of three new mines into the syndicate, the general meeting on November 3 took up the discussion of the proposed basis for renewal.³ It was soon discovered that the chief point of dispute was the allotment question. A special committee, instructed to report at the next general meeting, was chosen to attempt to induce the various mines to agree to a compromise table of divisions. The committee found it impossible to accomplish anything. No less than eighteen out of

¹ *Berliner Jahrbücher*, 1904, p. 111.

² *K. R.*, vol. i, p. 566.

³ *K. R.*, vol. i, p. 1121.

twenty-eight mines raised objections to a table of allotments submitted for inspection in November.

The second general meeting of syndicate ¹ members on January 18, 1904, showed a sharp division on the allotment question between the two groups of mines.² The group of older mines declared it would not submit to any further reduction of allotments and demanded that the younger mines agree among themselves as to the division of the balance of the total output. The latter elected a committee to consider the matter, but the high demands of certain mines precluded a settlement.³ Two general meetings, February 8 and 29, did not alter the state of affairs. After the mine Burbach gave formal notice of its intended withdrawal, some of the mines were deprived of the hope they had entertained that the agreement would be renewed according to a provision inserted in the contract that, should no member give notice of withdrawal before June 30, renewal would automatically take place.⁴ Nevertheless the deadlock continued, each side accusing the other of a shameful display of selfishness.

Finally on June 27, a meeting called by the Prussian *fisc* convened in a sort of fatalistic hope that efforts would be successful. By June 30 minor questions had been disposed of and one by one the mines agreed to quotas assigned to them by a special commission. The government mines finally agreed to make concessions but the obstinacy of the representative of the Hedwigsburg mine brought the negotiations on that day to naught. The mine owners were brought together the next day; Hedwigsburg expressed willingness to enter the syndicate upon the somewhat more favorable

¹ K. R., vol. i, pp. 1201, 1157.

² K. R., vol. ii, p. 281.

³ K. R., vol. ii, p. 310.

⁴ *Berliner Jahrbücher*, 1904, p. 111.

terms offered.¹ Hohenfels had, in the interim, contracted with several American firms to deliver potash at prices considerably lower than those quoted by the syndicate.² This was adjusted, the syndicate assuming the contracts, and upon July first, the new syndicate was organized.

Upon August 11, the new syndicate (Kalisyndikat, G. m. b. H.) was entered in the commercial register at Bernburg as a limited liability company with a paid-up capital stock of 400,000 marks entirely owned by the members of the syndicate.³ The adoption of the company form, merely a device to give juristic personality to the Kartell, was due to the desire to secure still firmer organization than had hitherto been possible. Potash products were regrouped into five groups, the first three of which included certain crude, mixed, and concentrated salts, the other two, crude salts. As before, members of the syndicate bound themselves to place the entire output of their establishments at the disposition of the central office which received and distributed orders. To increase the effectiveness of the syndicate's propaganda work, all individual trade marks were given up.

The administration of the syndicate was intrusted to three bodies: the general assembly (Generalversammlung) consisting of a representative from each mine; the supervisory council (Aufsichtsrat); and the syndicate

¹ K. R., vol. ii, pp. 542-544; *Berliner Jahrbücher*, 1904, pp. 111 et seq.

² Cf. article by C. H. MacDowell, of the Armour Fertiliser Works, one of the buyers. *American Fertiliser*, Feb. 25, 1911, pp. 31 et seq. Also K. R., vol. ii, pp. 542-544.

³ The text of the agreement is found in the *Denkschrift über das Kartellwesen*, bd. i, 1905, pp. 503 et seq. (*Stenographische Berichte des deutschen Reichstages. XI Legislaturperiode. II Session, 1905-06.*) Summarised in Heimann, pp. 1494 et seq.; and in *Berliner Jahrbücher*, 1904, pp. 111-112.

management (Syndikatsvorstand). The general assembly was empowered to choose eight members of the council, to declare dividends, to determine the terms of sale, and, with some qualification, to amend the articles of the company. Any change in the prices of certain products, as well as any change affecting the privileges of the Prussian Minister of Commerce, required the votes of the government representatives to be among those concurring. Upon the supervisory council, of which the chairman was to be chosen by the Prussian Minister of Commerce and Industry, devolved the duty of selecting the officials composing the business management, and of exercising control over them. The syndicate managing staff (Geschäftsvorstand) consisted of a Generaldirektor, with three subordinate directors each in charge of one of the three departments into which the business was divided: namely, the central department, the agricultural bureau, and the business management proper, which again fell into four divisions dealing with (a) crude salts, (b) concentrated products, (c) American trade, (d) transportation. The Vorstand fixed prices annually, subject to the approval of the supervisory committee, upon the basis of kainite containing 12.4 per cent pure potash, the other prices being computed therefrom according to potash content. Export prices were to be higher for all except a few products with low potash content, — an exception of little importance since such products cannot be economically transported. By other provisions, the approval of the Prussian Minister of Commerce was made necessary for raising the base price. The right to quote special prices for German agricultural consumption was retained.

An arbitration board was established for the settlement of disputes. Penalties for breach of contract

took the form of fines ranging in amount from 100 to 300,000 marks. Appeal from the decision of the supervisory council was permitted. As security for the observance of contracts, each mine, except the fiscal establishments, was required to deposit 300,000 marks to the credit of the syndicate.

The fatal weakness of the syndicate contract lay in the fact that in it were incorporated no provisions for the admission of new members. In the anxiety lest the syndicate should not be continued, a most important question was glossed over and finally left unsettled. This defect was destined to cause constant difficulties.

The period of calm which followed the formation of the syndicate in 1904 was of short duration. The establishment of new mines, their increasing reluctance to enter the syndicate, and the difficulties and disturbance accompanying become the main features in the history of the potash industry. The syndicate led a precarious existence, threatened with destruction more than once in the course of the protracted negotiations connected with the entrance of certain mines into the organization.

When possible, the syndicate secured the assent of a prospective member to a provisional agreement and assigned a quota tentatively. Then began a process of higgling, the new mine demanding a high quota with the hope of obtaining eventually about what was desired, and occasionally enforcing its demands by threatening, or actually making, independent sales at low prices. The syndicate, on the other hand, commenced by offering a low quota with the intention of raising it if necessary. The fact that since 1900 the average output per mine had decreased in absolute amounts each year rendered the allocation of quotas the most difficult problem of syndicate management.

From 1900 to 1908, the average output per establishment decreased 41.5 per cent in quantity and 47.8 per cent in value.¹

The speculation accompanying the revival of prosperity in 1905 found a favorable field in potash enterprises.² It was accentuated by the so-called Gamp law passed by the Prussian Diet for the purpose of preventing the multiplication of new mining enterprises. It was provided in this law that for two years from its enactment, no person should have the right to explore for, locate, or secure title to mining rights in the territory where Prussian mining law was binding. As it happened, Prussian mining law did not apply, in respect to potash salts, to Hanover, where all mining rights were the property of the landowner, not, as in Prussia, of the discoverer. Consequently, while the *lex Gamp* effectually checked potash exploration in Prussia, speculation merely shifted its base of operations to Hanoverian territory.³ The purchase and sale of mineral rights, the lease of lands, and development on the royalty plan of land bearing potash, or supposed to bear it, furnished great opportunities for the promoter, and the basis for unprecedented potash speculation, and a flood of potash securities of which a gullible

¹ Year	Total Output in Millions of Doppelsentners	Total Value in Million Marks	No. of Concerns	Average Output per Concern	Average Value in Marks
1900	30.4	56.2	15	202,407	3,748,688
1901	34.3	59.1	19	180,604	3,112,027
1902	32.9	56.9	24	137,057	2,370,379
1903	36.6	64.1	28	130,865	2,289,902
1904	43.0	74.1	28	153,621	2,645,684
1905	48.3	81.6	32	151,021	2,551,336
1906	54.8	91.7	36	152,093	2,546,777
1907	55.8	93.4	41	136,092	2,278,587
1908	59.2	97.8	50	118,315	1,956,264

Dr. Kreusam, in *Kartell-Rundschau*, 1911. — The doppelsentner contains 205 lbs.

¹ Heilmann, pp. 1551 et seq.

² Heilmann, pp. 1514, 1520, 1521; *Berliner Jahrbücher*, 1905, p. 120.

public never seemed to get enough. The *Gewerkschaft*,¹ a form of association in favor for mining enterprises, was, owing to a peculiarity in Hanoverian law, impossible to organize in that state. Nevertheless, the device of buying up the charters of small or defunct *Gewerkschaften* in Prussia and other states enabled promoters to circumvent the law, and gave rise to a flourishing trade in charters. Further, the *lex Gamp* did not affect mining rights already granted. Many enterprises, abandoned after the activity of the years following 1898, became once more objects of public favor and speculation.

It is impossible here to describe the negotiations connected with the admission of the various mines to the syndicate. But the case of Sollstedt, tho not typical, is of special interest because of the part played by it in the international complication of later years. In 1905, the Sollstedt mine, owned by H. Schmidtman, began producing, and made its entrance into the syndicate conditional upon the adoption of certain reforms in the policy of the syndicate, among other things urging the adoption of a lower price basis.² Altho the opposition claimed that these reform demands were merely a cloak to hide the real demand for a large quota, one cannot deny that a policy of lower prices, in order to remove the incentive to the increase in the number of mines, was entitled to serious consideration.

Unable to secure the assent of the syndicate to his proposals, Schmidtman closed contracts late in 1905 with several American potash buyers. When it became known that the syndicate was granting larger discounts

¹ The *Gewerkschaft* is divided into shares called *Kuxe*, each of which represents a definite fraction (e.g., 1/100, 1/128, 1/1000, etc.) of the capital. There is, of course, no fixed par value. The *Kuxe* are assessable.

² Cf. K. R., vol. iv, 1906, pp. 24, 93, 94, 208. Cf. also Statement in behalf of the Potash Syndicate, issued Jan. 20, 1911.

to the great fertilizer corporations, the Independent Fertilizer Manufacturers Association, consisting of some sixty-five companies, was formed and proceeded to contract with Sollstedt for more potash.¹ In all, the contracts called for the annual delivery of about 50,000 tons of pure potash at prices which, tho not specified, were guaranteed to be as low as those currently paid by the large fertilizer corporations. According to the prices paid for potash, American buyers might now have been divided into several groups: — first, the two large fertilizer corporations, receiving discounts of 11 and 13 per cent; next, the group of Sollstedt's customers, some of whom were under obligation to secure their potash from the syndicate up to Jan. 1, 1910 (deliveries to these were not to begin until 1910); other buyers, bound by contract to take their total potash requirements from the syndicate at discounts of 5 and 7 per cent; and buyers under no obligations and paying the current prices.

Schmidtman was much criticized for his action. He was accused of lack of patriotism, of wasting a great natural resource for the benefit of a foreign nation instead of conserving it for the welfare of the German people. Since geological experts estimate the supply of potash salts to be sufficient to supply the world for 600,000 years, the ever-recurring arguments bearing on the subject of exhaustion have little force.² The true explanation of the hostile attitude against Schmidtman and other mine owners who made low price sales to foreign customers, and against foreigners who attempted to buy potash mines, seems to be the belief that the possession of a natural monopoly ought to enable the nation to secure monopoly gains.

¹ American Fertilizer, Feb. 25, 1911, pp. 31 et seq.

² Estimate of Oehsenius. Cf. also, in this connection, xxi Chron. 1515-1516.

At the close of 1905, Sollstedt was more unlikely than ever to enter the syndicate. Toward the end of January, 1906, there was serious talk of dissolving the combination. In the course of the negotiations the syndicate issued an ultimatum, offering quotas to Sollstedt and two other "outsiders," under threat that should the offer not be accepted, steps to effect the dissolution of the organization would immediately be taken. Schmidtman in answer to this declared that the size of the quota was a minor matter, and that he was mainly concerned with the reforms in organization and in the price policy. No definite action as to dissolution of the syndicate followed. Negotiations were continued. The general meeting of the syndicate refused Schmidtman's proposal to lower prices, and during the latter part of the year, the Sollstedt conflict, as it came to be known, was allowed to lag. The situation, critical as it was, was aggravated by the syndicate's difficulties with other mines, especially with Deutsche Kaliwerke,¹ which also presented a number of reforms as the condition of its entrance. The crisis became so acute that a number of mines were ready to give notice of withdrawal from the combination as soon as any mine except Sollstedt should sell a single doppelzentner independently.² Despairing of inducing Sollstedt to enter, it was proposed to make use of Sollstedt and Schmidtman's connection with the mine Aschersleben (a member of the syndicate) to bring a suit for damages, alleged to have been suffered by the syndicate through the connection of the syndicate member, Aschersleben, with the outsider, Sollstedt. Schmidtman, in his capacity as chairman of the supervisory board of Aschersleben, had carried through several transactions connected with the development

¹ K. R., vol. v, pp. 33, 103, 306, 307.

² K. R., vol. v, p. 307.

of Sollstedt, by the aid of Aschersleben funds; the shares of Sollstedt had been subsequently purchased by Aschersleben.¹ It is unnecessary to go into detail; the upshot of the matter was that a number of stockholders of Aschersleben formed a protective association and attempted to oust Schmidtman. However, the affair began to clear up, and on May 10, Sollstedt agreed to enter the syndicate, the reform demands being postponed for later discussion and decision. The statement made later in connection with the potash controversy,² that pressure of public opinion and fear of government intervention caused Sollstedt finally to enter the syndicate, seems to be only partially supported by fact. Government intervention had been advocated, but for a different purpose, that of checking the increase of new mines, not the regulation of those already in existence.

By the terms of settlement, Sollstedt continued deliveries of potash to its American customers, paying fines for the excess over its allotment. The syndicate was, however, granted the option after January 1, 1908, of assuming the contracts calling for current delivery, while the new syndicate, should one be organized in 1909, was to have the option of assuming all the sixty-five or seventy contracts. The syndicate chose to make use of its option and, upon January 1, 1908, assumed the Sollstedt contracts as binding. Delivery proceeded smoothly for a time, but in June came an unusual influx of orders from the Sollstedt customers, and a corresponding decrease in the orders from those customers of the syndicate who were bound by contract to secure from it their total potash requirements. The officers of the syndicate concluded immediately that

¹ *Berliner Jahrbücher*, 1906, p. 96; 1907, p. 121; *K. R.*, vol. v, pp. 231, 390, 559, 560.

² Statement in behalf of the Syndicate, p. 9.

the Sollstedt customers intended to resell potash to purchasers already obligated to the syndicate, — a conclusion strengthened by complaints of discrimination. The syndicate did not propose to allow any surplus for resale and accordingly restricted deliveries. Sollstedt's American customers protested against this violation of contract and refused to acknowledge the transfer of the contracts to the syndicate. Sollstedt, contrary to contract, resumed independent delivery in July, pointing out that the alleged intended breach of contract on the part of the syndicate's customers did not call for the violation of another agreement, in order to punish the offenders. Owing to the fact that Sollstedt had deposited large security guaranteeing delivery, the Americans could exert considerable pressure. The syndicate accepted the situation without further action at the time.¹

The trouble with Sollstedt, tho the most serious encountered during the existence of the fourth syndicate, by no means stood alone. The mines Rossleben and Ronnenburg which also applied for admission to the syndicate in 1905, settled the quota problem by a compromise and became members in March, 1906.² In the same year the Kaliwerk Friedrich Franz entered, in which the government of Mecklenburg was chief stockholder; and the Prussian fisc, in order to strengthen its position in the syndicate, bought the mine Hercynia.³ The influence of the group of newer mines had been constantly increasing, and at the general assembly in November, 1906, they were able to elect a majority of the supervisory council.⁴ They proceeded to make

¹ *American Fertiliser*, Feb. 25, 1911, p. 32; *Statement of the Syndicate*, p. 10; *K. R.*, vol. vi, pp. 649, 743, 744.

² *K. R.*, vol. iv, pp. 24, 93.

³ *K. R.*, vol. iv, pp. 23, 24.

⁴ *K. R.*, vol. iv, p. 32.

use of their power in an attempt to introduce a reorganization of the syndicate's technical and mercantile policy. This was much facilitated by the change in general directors in February, 1907, following a long dispute and a series of complaints of favoritism to the older mines.¹ But the competition of Sollstedt and the Deutsche Kaliwerke, which threatened the very existence of the syndicate, directed efforts toward inducing these to enter the fold.² The agreement with Sollstedt has been mentioned. The set of reforms advocated by the Deutsche Kaliwerke were given up, as in the case of Sollstedt.³ The question in dispute was finally limited to one of quotas. After appraisal by a special commission and several conferences, the long protracted negotiations came to a close. The syndicate ratified the entrance of Sollstedt and Deutsche Kaliwerke on June 19, 1907. A few months later, in November, three new mines were added to the syndicate membership.⁴

The year 1908 brought no halt to the increase in the facilities for the production of potash. But the older members of the syndicate were surprised when they heard that a group of capitalists representing the powerful agrarian association, the Bund der Landwirte, had purchased extensive potash properties with the intention of establishing still another potash mine.⁵ In view of the distinctly friendly attitude which the syndicate had always shown toward the agrarian associations, it was not to be expected that they would seriously consider competing with the syndicate. The syndicate was successful during the year in inducing all "out-

¹ For particulars see K. R., vol. v. pp. 134, 166, 232, 306.

² K. R., vol. v, pp. 103, 166, 306, 391.

³ K. R., vol. v, p. 33.

⁴ K. R., vol. v, pp. 559, 560.

⁵ *Berliner Jahrbücher*, p. 141; K. R., vol. vi, p. 292.

siders" to become members of the organization. At the close of 1908, there were forty-nine mines in operation all of them syndicate members; sixty-five companies in addition had already begun borings and shafts.

A distinct development of the potash industry in this period, was the organization of companies to buy up potash lands in order to prevent the establishment of more mines. Several of the newer mines, headed by the Deutsche Kaliwerke, organized a company (*Vereinigungsgesellschaft für Kalibergbau*) to buy up potash properties with the express purpose of demanding in return for not developing them, an excess quota from the syndicate, so that reasonable interest on the investment in potash properties could be paid.¹ A group of the older mines also formed a similar association, the *Schutzbohrgrneinschaft*. Its offer to sell the fields it had acquired to the syndicate was rejected.

The continued over-development of facilities for potash production was due to a complex of causes rather than to any single factor. Various peculiarities of the potash industry have made it a favorite for investment and speculation. The participation of the government in the industry and the patriotic desire to invest in home enterprises doubtless had an influence. But Germany's possession of a natural monopoly and the unusual profitableness of the industry have certainly been prime factors. Dr. Pinner gives interesting figures.² In 1906, which he considers a normal year, the average profits of twenty-one mines was 15.9 per cent, while dividends of 13.5 per cent were

¹ K. R., vol. v, pp. 638-639, 785-787.

² Article in *Die Bank*, 2 Jhrg. Heft 2, 1909, pp. 133-145; summarised in *American Fertilizer*, 1909, Sept., p. 20.

declared.¹ Within two years the average dividends were decreased to 9.5 per cent, because of the increase in the number of mines and the decreased average output. Upon the basis of expert opinion, Dr. Pinner states that the cost of production of potash salts varied from 40 to 60 per cent of selling prices. With the smaller average output per mine in 1908, the proportion was somewhat higher, but still low as compared with other mining industries.² Potash mine owners do not neglect to make large deductions for amortization and depreciation.³

The fact that the capital required for developing a potash mine is considerable seems to have had little effect in checking production. The capital stock of each of the twenty-one mines mentioned above was, with one exception, in excess of \$400,000; the average was well over \$1,000,000. The average cost of a boring ranges from \$15,000 to \$25,000, and one at least must be made preliminary to the sinking of a shaft. The risks of the potash industry were insufficient to check investment, altho they are of a peculiar nature, especially the danger of water dissolving the salts.

In addition to the unusual profitableness of the industry, one must mention among the inducements to speculation the attempts of the Prussian government to regulate the industry. Reference has been made to the Gamp law. Prominent among the arguments of its proponents was that the passage of such a measure was the only means of preventing potash fields from being monopolized by private individuals. The objection to the law, that a large number of boring companies

¹ The averages are probably somewhat too large. Cf. Bericht der 9. Kommission. Aktenstücke zu den Verhandlungen des Reichstages, Nr. 475, 1909-10, pp. 2430-2431.

² Compare Aktenstücke, Nr. 475, 1909-10, cited above, pp. 2418-2422.

³ Groth, pp. 18 et seq.

would be destroyed, was not borne out. Instead, the law greatly increased the value of their holdings. An instance is reported in which the International Boring Company, at Erkelenz, working with a capital of 1,000,000 marks, had acquired a large number of potash fields, and sold them several months after the enactment of the law for 35,000,000 marks.¹ Tho the *lex Gamp* was superseded July 8, 1907, by a new mining law, its provisions were in essentials continued.²

The extension of the police requirement that every mine have at least two passable exits was also instrumental in increasing the number of mining companies.³ The construction of a second shaft necessitated for many mines a large outlay of capital. Since the ordinance could be complied with by connecting two adjoining mines underground, this method was adopted by some of the mines.⁴ Other mines holding extensive tracts of land complied with the law by constructing a second shaft, but, in addition, organized a subsidiary company to take charge of it, and the new company proceeded to demand an independent quota from the syndicate. Among the members of the syndicate which adopted the latter course were Burbach, Westeregeln, Glückauf-Sondershausen, Aschersleben, New-Stassfurt, and Rossleben.

V. THE RENEWAL NEGOTIATIONS, 1908-1910

Negotiations concerning the renewal of the syndicate began nearly a year and a half before final decision was necessary, — in itself striking evidence that great

¹ *Berliner Jahrbücher*, 1905, pp. 107 et seq.

² For the laws affecting the mining of potash, see *Anlage 34 zu Nr. 475. Aktenstücke*, 1909-10, pp. 2462-2465.

³ *Berliner Jahrbücher* 1907, p. 123; 1908, p. 138. Also *K. R.*, vol. vi, p. 450.

⁴ Cf. *Aktenstücke*, Nr. 475, 1909-10, pp. 2436-2437.

difficulty was expected.¹ At a general meeting of the syndicate on January 14, it was decided that the supervisory council should submit before May 1 the draft of a new contract. Pending the outcome of the negotiations, the council succeeded in inducing ten mines to refrain from "outside" sales till June 30, 1909. In the hope of strengthening their influence in the syndicate, a number of the mines began to divide their ownings, intending to use the fields controlled by subsidiary companies as defense against the reduction in quota which was bound to come. As an instance, Glückauf-Sondershausen announced its intention of transferring its reserve fields to six subsidiary *Gewerkschaften*. The supervisory council proceeded to ask each mine owner to hand in a written statement of his suggestions for reform.² In the replies, the evils of the existing situation were evidently recognized by all, but the proposed remedies revealed much divergence of opinion.³ The propositions of a group of Hanoverian mines, to which ten or eleven mines expressed complete agreement, give some light on the points of controversy. They advocated the creation of a second council (*Beirat*) to relieve the supervisory council of some of its many duties under the old organization. The duration of the new syndicate should be ten years. The admission of new members was to be left to an arbitration board. Products were to be sold under certified analyses. Transfer of quotas from one mine to another (under restrictions) was to be facilitated. All these propositions, as well as sundry others, were actively opposed. Transfer of quotas was especially

¹ K. R., vol. vi, pp. 206, 286; vol. vii, pp. 261, 245, 443.

² K. R., vol. vi, p. 288.

³ K. R., vol. vi, pp. 364, 117 et seq. Cf. in this connection Emil Sauer's proposals K. R., vol. vii, pp. 102 et seq.

opposed by the fiscal representatives on the ground that it would further the "Vertristung" of the industry. It would undoubtedly have increased consolidation, and the government's fear of having several less efficient plants shut down, and a number of laborers thrown out of employment thereby, was a chief factor in determining its attitude. Another proposal was that each mine should receive an additional quota for each undeveloped potash field in its possession. The adoption of such a measure would have greatly altered the appearance of the allotment table. For instance, Glückauf-Sondershausen, owning 258 fields, had at the time a smaller quota than another mine with only four.

During the spring and early summer of 1908, the committee of the supervisory council in charge of the renewal negotiations worked constantly to eliminate as much of the friction as possible. The Prussian government had early expressed its opinion that renewal of the syndicate was by all means to be desired; doubt as to the attitude of the fisc was no longer a deterrent factor. It had been stated frankly that should the fisc decline to become a member of a new combination, the chances were overwhelmingly against its formation. The expressed wishes were, as far as possible, embodied in the draft of a new syndicate contract which was submitted to the supervisory council at Eisenach on July 2.¹ According to its provisions, the power of the potash syndicate was to be extended from the sale and purchase of potash to the acquisition of property and other rights. Potash products should be sold according to analyses of their exact chemical content. It was planned to create a second council

¹ *Berliner Jahrbücher*, 1908, p. 141.

(Beirat) to assist the supervisory council. The seat of the syndicate was to be changed from Stassfurt to Berlin, — a concession to the younger mine owners, who believed that there the connection between the syndicate and Ministry of Commerce would be more intimate, and that the syndicate would be in closer touch with the great agricultural associations having central offices in Berlin. Of more importance was the proposed freedom to transfer quotas from one mine to another, when owned by the same firm.

The renewal negotiations were in the main a repetition in intensified form of those in 1903 and 1904.¹ As before, a new agreement must be concluded before June 30 of the year of expiration, in order to avoid the complication of outside sales. The hope of speedy renewal vanished as the months passed, and the entire second half of the year was devoted to discussion of the plan of reorganization; the chief question, that of allotments, was shelved until an agreement on other points should be reached. Among the mass of articles and reports which filled the press, an article of Dr. Wächler, the chairman of Salzdethfurth, one of the older mines, attracted special attention. Pointing out that the syndicate was not in a position to avoid overproduction, he declared that the régime of competition was the only remedy. The elimination of all the less capable companies would place the industry once more on a firm basis. But the opponents of Wächler's view claimed that the excess of mining facilities was the fault of legislation, not of the syndicate, and that price cutting would deprive Germany of all advantage from her natural monopoly. They also stated that free competition would cause enormous losses to a great

¹ K. R., vol. vi, pp. 1043 et seq.

number of security holders interested in the prosperity of the industry.

When the commission of the syndicate met on January 5, 1909, three sub-committees were chosen, one to deal with the hotly contested question of changing the domicile of the syndicate, a second with the question of the increased utilization of carnallite (urged by the carnallite mines, which felt that their product was not being actively pushed) and a third with the question of the size and transfer of allotments. On April first, a new syndicate plan was published, which left the question of location open, but proposed changes allowing transfer of quotas between the groups of products and between mines. After a discussion by the full commission, and restriction of the right of transfer to suit the Prussian Minister of Commerce, the general assembly, consisting of representatives of all mines belonging to the syndicate, and others about to enter, took up the most difficult problem, the allocation of allotments.¹ It was strongly urged that the old allotment table be taken as a basis and that quotas for the new mines be provided for by a 10 per cent horizontal deduction from the quotas of the older mines, the required balance to be assigned pro rata. But this scheme, as well as others proposed, failed of acceptance, and the allotment question was again referred to a committee, which prepared accordingly a new allotment table, but with as little chance of acceptance as before.

Since there was little doubt that lower prices would follow the dissolution of the syndicate, American potash buyers could hardly be expected to favor its continuance. All the pressure which could be brought to bear on the situation was exerted against the combination. The

¹ *Berliner Jahrbücher*, 1909, p. 167.

Virginia-Carolina Company owned 702 of the 1000 shares of Einigkeit, controlling therefore that mine. Nothing substantial appears to have come out of the rumored negotiation between the mine Teutonia and the American Agricultural Chemical Company; the rumor caused a flurry of excitement and the publication of numerous articles under such captions as "Vaterländische oder Amerikanische Bodenschätze?" with repeated patriotic warnings against the invasion of foreign capital. This had the material result some time later of causing such transfers of mining property to foreigners to be dependent on official sanction. That American influence was exerted against the syndicate is shown more distinctly in the transactions concerning Sollstedt and Aschersleben. The chief stockholder, H. Schmidtman and his son, W. Schmidtman, had long been dissatisfied with syndicate management. They wanted to operate at full capacity. The American market was a favorite because of its great capacity to absorb potash, and the high potash content of the wares demanded. Schmidtman had already secured a huge slice of the American trade by the "outside" sales of Sollstedt in 1905-06. With some of the American independents he had contracts for delivery up to 1917. Consequently he was not at all averse to the idea of combining the independent buyers. Should such a combination be formed he would contract to furnish potash at low prices. This would please the American potash buyers. Schmidtman would have long time contracts for deliveries of potash, and would be entrenched against the revulsion which might follow the dissolution of the syndicate; if renewal were effected, he was in a position to force the syndicate to accede to his demands. However, the attempt of W. Schmidtman and C. F. Meadows of Baltimore to organize

the Independent Fertilizer Company in the fall of 1908 fell through. A second attempt to combine the independent fertilizer manufacturers in the U. S. Agricultural Corporation, chartered in April, 1909, also bore no result. The third attempt was successful. Between midnight June 30 and daylight July 1, presumably, the International Agricultural Corporation with W. Schmidtman as president and C. F. Meadows as treasurer came into being, having obtained possession in that same short space of time of the Sollstedt mine, and sold potash which it had bought from Sollstedt. America was, and is, outside of Germany itself, the syndicate's biggest customer. Its influence, exerted at a critical period in the life of the combination, had the inevitable effect of increasing the difficulties of renewal.

In spite of all the complications, it was believed that the syndicate would be renewed at the meetings to be held the last of June.¹ Prospects brightened during that month. Many of the special demands were withdrawn and differences compromised. When the final meeting convened at Berlin, potash buyers from many countries had assembled in the imperial city to await the outcome of the negotiations, the American delegation being conspicuous.² Their purpose was clear. In the event of the dissolution of the syndicate a price war would be the probable result, and buyers on the spot would be able to secure cheap potash. The meeting on June 29 was devoted to the discussion of allotments. Negotiations were resumed on the following day. By ten o'clock that evening, thirty-five mines had signified their willingness to enter on the terms offered. At eleven, the Prussian fiscal representative

¹ *Berliner Jahrbücher*, 1909, pp. 168, 682.

² *American Fertiliser*, July, 1909, p. 23.

announced that unless there was unanimous agreement by midnight, he would proceed to make independent sales. After a dramatic session, the obstinacy of one mine owner defeated the efforts at renewal.¹ The remaining representatives (of forty-one mines) agreed informally not to make any sales independently until after July 1. On July 1, it was learned that the representatives of the Westeregeln group, the Einigkeit, and the Schmidtman mines, Aschersleben and Sollstedt, had made large independent sales of potash after leaving the hall at midnight. This added complication precluded the possibility of organizing a new syndicate on July 1. But the provisional agreement was continued to July 8 and then extended to July 24.² In the meantime the German government had threatened to levy an export duty on potash, and the Westeregeln group had succeeded in annulling its "outside" contracts. Upon July 24, a new syndicate was organized, not including Sollstedt, Aschersleben and Einigkeit, — those mines in which American influence was strongest. It was to be located at Stassfurt and its continuance was contingent upon the satisfactory adjustment by the three outsiders before September 30, of their independent sales.³ But nothing having been accomplished, a "Kampf-syndikat" was formed without them (on September 30).

Sollstedt, through the International Agricultural Corporation, its owner, proceeded to sell potash to all the independent buyers with whom it had previously contracted, on the same terms as had been granted to the American Agricultural Chemical Company.

¹ *Berliner Jahrbücher*, 1909, p. 168; K. R., vol. vii, p. 683.

² K. R., vol. vii, p. 723.

³ K. R., vol. vii, pp. 723, 799. *Berliner Jahrbücher*, 1909, p. 169. For the charges of the syndicate against Schmidtman, see K. R., vol. vii, pp. 840-841.

The total of the contracts (including those of Einigkeit and Aschersleben) involved seven or eight million dollars and called for about 120,000 tons of pure potash, or four-fifths of the annual American importation. The contracts, binding for two years, were provided with options on a five year extension.¹ The unsuccessful attempts of a German commission² sent over in August to induce the Americans to give up their valuable contracts, — valuable because the prices quoted were about 30 per cent lower than current syndicate prices.³ The fact that the syndicate policy of making the export trade pay the largest part of the profits did not operate as nicely when two-fifths of the export trade was taken away, the arguments concerning the dissipation of a national resource, the strengthening of foreign nations at the expense of the Fatherland and the like, — all these increased the clamor for legislative interference. As a result, the Prussian government submitted in December a proposed imperial potash law to the Federal Council of the Empire. Tho the idea of a direct export tax was given up, the bill proved especially displeasing to the Hanoverian faction; and since it practically nullified American contracts, the opposition which developed caused its withdrawal.⁴

A second committee of the syndicate, which came over to America in December, was as unsuccessful as the

¹ Statement of the Potash Syndicate, p. 15. Also *lexix Chron.* 412; *xx Chron.* 630. K. R., vol. viii, pp. 243, 331.

² American Fertiliser, August, 1909, p. 8; K. R., vol. vii, p. 799.

³ Statement in behalf of the Potash Syndicate, p. 15. The price for muriate of potash was about \$20.30 per ton. The syndicate price at the time was about \$33.00 per ton. See also American Fertiliser, Dec. 3, 1910, p. 20.

⁴ *Deutsche Ökonomist*, vol. xxviii, pp. 24, 110; K. R., vol. vii, pp. 840-841. Statement of the Syndicate, p. 11. *Berliner Jahrbücher*, 1909, p. 170.

first.¹ About this time treaty negotiations in connection with the Payne-Aldrich Tariff were in progress. Following the exchange of a number of informal notes, the United States representing that an export duty would be considered undue discrimination against American trade, the State Department was reported, on January 17, to have received assurances that the German government would not press its scheme of levying an export tax. Germany was soon after accorded the privilege of the minimum tariff.²

On February 4, the draft of a new potash law was brought before the Reichstag by the Federal Council. After a lively debate (February 14 and 15, 1910), in the course of which it became clear that the low price American contracts were at least the occasion of the bill, it was referred to a committee of twenty-eight.³ Much altered, it came back to the Reichstag and was passed on May 25, 1910, going into force three days later.⁴

The potash law, thus finally enacted⁵ provides for imperial control over the production and selling prices of potash salts until December 31, 1925. The allocation of allotments becomes the duty of the "königliche Verteilungsstelle," a commission of which the chairman and two other members are chosen by the Chancellor, subject, however, to ratification by the Federal Council. The other members are chosen by the mine owners.⁶ The Verteilungsstelle estimates a total output sufficient

¹ American Fertiliser, January, 1910, p. 18. K. R., vol. viii, p. 33.

² American Fertiliser, February 15, 1910. Also *re Chron.* 1557, K. R., vol. ix, pp. 25, 149.

³ Berliner Jahrbücher, 1910, p. 145; Deutsche Ökonomist, vol. xxviii, pp. 24, 25, 109.

⁴ For the report of the commission, see Bericht der 9 Kommission, Anlage Nr. 475, zu Stenographische Berichte usw. 1909-10.

⁵ Text of the law in Reichstagsverhandlungen, Nr. 219 der Drucksachen 1909-10, also reprinted in Kartell-Jahrbuch, Bd. i, Heft 2.

⁶ Cf. Abschnitt I, §§ 7, 8.

to supply the world's demand, and apportions it among the potash producers. For the same mine, the percentages of domestic and export output must be the same, in order to prevent the possibility of any mine devoting itself exclusively to the export trade.¹ For the current year a scale of prices which should serve as the maximum for domestic and as a minimum for export, was embodied in the law.² Any potash mine which delivers salts in excess of its legal allotment must pay into the imperial treasury a tax of from ten to eighteen marks for every doppelzentner in excess of its quota.³ This is in addition to the regular (and almost nominal) tax of sixty pfennige per doppelzentner levied upon the total output of potash, whose proceeds go to pay the expense of administration of the law, any excess being used for propaganda purposes.⁴ The Federal Council is empowered to lower the surtax in the case of contracts executed before December 17, 1909, so that the contract prices plus surtax shall not exceed the prices current before June 30, 1909.⁵ For the purpose of checking the increase in the number of producers, the law provides that a new mine shall receive an allotment from the first, but one smaller than its capacity would entitle it to demand.⁶ Not until the third year shall full allotments be granted.⁶ Mines with two shafts shall receive a 10 per cent addition because of the second shaft.⁷ Allotments may be transferred between groups of products or transferred or exchanged with other mines;⁸ but the transfer of over half an allotment requires official consent.

As an example of social legislation, another provision requires attention.⁹ It is provided that whenever a potash mine reduces wages or lengthens the time of

¹ Abschn., I, § 8.² Abschn., II, § 20.³ § 26.⁴ § 27.⁵ § 46.⁶ §§ 12, 13.⁷ § 11.⁸ § 17.⁹ §§ 13, 14.

employment, its quota is to be reduced by the Verteilungsstelle, on the ground that such action is *prima facie* evidence that capacity has decreased. In the decision, the Verteilungsstelle must call in two labor representatives to act as part of the court. Employees in mines or factories which close because of transfers of allotments are entitled to compensation from the mine owners, up to the amount of twenty-six weeks' pay.

The law provided for no compulsory syndicate. But under the altered conditions which it brought about the Kampf-syndikat of September 30, 1909, was dissolved, and a new one came into existence on June 7, 1910.

VI. THE POTASH CONTROVERSY BETWEEN GERMANY AND THE UNITED STATES

The potash sold to Americans by the Aschersleben, Sollstedt, and Einigkeit mines was in amount far in excess of their quotas under the new law. The greater part, hence, was subject to the supertax, which nearly equalled the selling prices of the salts. The mines Aschersleben and Sollstedt refused to continue deliveries unless the Americans would assume the tax. The American holders of low price contracts would not agree to this, since assumption would mean their paying higher prices for potash than those who bought from the syndicate.¹ They denied that the tax was a charge of the nature implied in their contracts, the wording of which was "that any governmental duty should be assumed by the buyers." They maintained it was a penalty for violation of a German law.² Expert legal

¹ K. R., vol. viii, p. 771.

² American Fertiliser, August 10, 1910, p. 22.

opinion on both sides of the Atlantic split on the question. In Germany the majority held the Americans to be liable for payment of the tax; in America the opposite opinion prevailed. The necessity of securing potash for current requirements forced the Americans to pay the tax which they did under protest.

Fertilizer interests in this country denounced the law as a practical repudiation of contracts made in good faith, and appealed to the State Department for aid. As soon as the matter could be taken up, in the fall of 1910, it became evident that the Germans did not wish to concede any more ground than was absolutely necessary. The Federal Council refused to consider a reduction of the supertax in the case of the options, according to which the buyers had demanded a five year extension of contracts, in June, 1910.¹ A commercial representative of the State Department, accompanied by a group of fertilizer manufacturers proceeded to Europe in September. He declared two months later that no settlement could be made; that the application of the maximum clause of the tariff act of 1909 was in order, since the German law clearly was discriminatory against America.

The controversy reached so acute a stage in December that President Taft submitted the whole matter to the Cabinet. Protests of fertilizer manufacturers, of farmers and other potash consumers continued to arrive at the State Department. Upon January 20, 1911, the potash syndicate presented a statement² for the consideration of the President and the Secretary of State. In contrast to the inflammatory protests of American fertilizer manufacturers, the syndicate's

¹ *Berliner Jahrbücher*, 1910, p. 150; *K. R.*, vol. viii, p. 571.

² Statement in behalf of the Potash Syndicate. Dated January 20, 1911. Cf. also *K. R.*, vol. ix, p. 221.

brief was a sober and dignified presentation of the case; tho the inclusion of a number of misstatements and assertions insufficiently proved laid it open to attack.¹ But it seemed that the crisis had passed. The demand of our State Department for a definite statement from the German government elicited a reply which was not made public, but seems to have led to the adoption by our government of the attitude which the German had maintained, namely, that the affair was one to be settled by the parties concerned, and not by international diplomacy. After a series of conferences at Hamburg, an agreement between the Americans (except the International Agricultural Corporation) and the syndicate was reached.² Before the controversy could be finally settled, it was necessary to arrange matters with the Aschersleben and Sollstedt mines, which still insisted upon delivering potash subject to the supertax. But negotiations progressed so rapidly that a compromise was soon agreed upon.

The provisions of this final settlement³ were in brief, (a) the withdrawal of all suits in our courts involving liability for the payment of the potash tax levied by Germany; (b) the assignment to the syndicate of the American contracts with independent mines; (c) new contracts with the syndicate, covering full American potash requirements for five and one-half years on a price basis practically the same as that prevailing before the low price contracts were obtained from the independent mines; and (d) the reëntury of the independent mines Sollstedt and Aschersleben into the syndicate. Aschersleben bought one-half of the Sollstedt shares from the International, and upon January 1, 1911,

¹ Cf. for instance *American Fertiliser*, January 28, February 10, February 25, 1911.

² *zeil Chron.* 1438. Also *Kartell-Jahrbuch*, Heft 2, p. 134; *zeil Chron.* 1525; *K. R.*, vol. ix, p. 493.

³ *zeil Chron.* 70.

Sollstedt entered the syndicate. The German government agreed to refund about 60 per cent of the supertax held in escrow in American banks. Aschersleben received 1,050,000 marks from the American Agricultural Chemical Company and the same amount from the International in return for its consent to annul the "low price contracts."¹

The Einigkeit mine, one of those which made independent sales, was not much involved in the controversy. The low price sales to the Virginia-Carolina Company were insufficient to cover requirements. Forced to buy the balance of its potash from the syndicate, an amicable arrangement was made in 1910, whereby Einigkeit became a member of the syndicate December 31 of that year, paying a sum of about \$50,000 to the syndicate as a compensation for "outside" deliveries already made.²

VII. THE WORKING OF THE POTASH LAW OF 1910

The potash law was not a measure concocted on the spur of the moment to deprive American potash buyers of the benefit of their contracts. Legislation and combination had long been directed to the purpose of preventing ruinous competition among potash enterprises. The law was merely the culmination of a movement toward conservation. No doubt action was hastened by the low price American contracts. Technically, the law was not discriminatory. It applied to all potash in excess of the legal quota of a mine, whether for domestic or export trade. The payment of the tax

¹ *Kartell-Jahrbuch*, Bd. ii, Heft 3, p. 265. The account of the settlement in U. S. Consular and Trade Reports differs in certain minor details from that given above. (Nov. 11, 1911, p. 761.) Cf. also Consular Reports, November 25, 1911, vol. xciv, p. 70.

² *Kartell-Jahrbuch*, Bd. i, Heft 4, p. 45; K. R., vol. ix, p. 125.

was a question of contractual liability and the fact that Americans were chiefly involved was no proof of truth in the accusation of undue discrimination.

But if the law was successful in preventing low price potash sales, it was in other respects far from being as successful as its originators predicted. Instead of checking the continued increase of new mines, its effect was similar to that of previous attempts at legislation, in furthering the evil it was intended to prevent. As soon as it went into effect a new wave of development began. Not only were vacant fields divided and subdivided to form bases for new enterprises, but the syndicate mines also proceeded to divide their properties to a greater extent than before, founding new subsidiary companies with extra quota demands. Since a concern was legally entitled to a larger quota if two or more shafts were operated, and since, under the law, each new mine was guaranteed a quota, it became necessary for any mine which did not wish to have its quota reduced below a level which would leave a profit, to establish two or three subsidiary companies. Instances are numerous. Aschersleben divided its possessions to form four new enterprises. Out of the original properties of the *Gewerkschaft Hugo* a full half dozen mines were formed by division. From the *Gewerkschaft Amélié* eleven new undertakings have been organized, and the list might be continued.¹ With the honorable exception of Prussia, governments have been as great sinners as private enterprises in the promotion of new mines. Anhalt has four and plans two more. In April, 1911, in addition to the sixty-nine syndicate mines, seventy-nine were in process of construction, and about fifty more had either completed

¹ K. R., vol. xi, pp. 201, 198.

or were making borings.¹ A year later, ninety-seven mines were prepared to deliver potash, and a hundred and thirteen were in process of construction.² Dr. Paxmann stated in the spring of 1913 that one hundred twenty-seven mines were operating, one hundred thirty-two in construction.³ The failure of the law in this regard is unmistakable.

The potash law had another effect not desired by its promoters, that of furthering concentration within the industry. The extension of the movement toward concentration which had become a feature of coal mining and banking, was much delayed by the hostile attitude of the syndicate of 1904, — an attitude inspired by the fiscal representatives, opposing transfer of quotas. Yet the opposition of the syndicate had not been sufficient to keep away concentration entirely. The fear of the loss of influence shared by the fiscal mines, should the private enterprises be free to combine, added little to the deterrent influence. During 1905 certain mines secured control of others by means of stock ownership. Westeregeln backed by the Mitteldeutsche Kreditbank acquired three-fourths of the shares of the new mine Rossleben. The Schmidt-mann mine, Aschersleben, purchased the shares of the mine Sollstedt; and other instances might be given.⁴ Yet until 1909, there had been little immediate advantage, except as investment, from the control of one mine by another. Concentration of production was practically prohibited, despite the fact that mines were operated at only a third or quarter of their capacity.

The freedom granted by the potash law in the matter of transferring quotas was a great incentive to concentration. Mines began to buy up quotas or controlling

¹ K. R., vol. ix, p. 401.

² K. R., vol. x, p. 472.

³ K. R., vol. xi, pp. 43, 202.

⁴ K. R., vol. iii, p. 325.

interests in other mines. The Wintershall mine, to which belonged the mines Heringen and Heiligenroda, acquired a majority of the shares of Bismarckshall, and secured control over five other mines. Later it was reported to have obtained control over two subsidiary companies of the Gewerkschaft Amelié.¹ The fusion of the Deutsche Kaliwerke concern and the Amelié was another notable instance. In the next year, 1912, the movement continued, the cases most discussed being the combinations Einigkeit-Prinz Adalbert,² and Burbach-Krügershall.³ In nearly every case, the combination of mines was accomplished by means of stock ownership.⁴ The purpose was usually at least one of three: (a) to save capital outlay in the construction of the second shaft required by the police ordinance; (b) to transfer or exchange quotas so as to concentrate production in the best situated mine; (c) joint ownership and administration of power plants and branch railroads, or division of risk.

Denunciations of the potash law began six months after its passage and have grown in number and vehemence.⁵ The opinion is now freely expressed that the potash law is a failure; that in order to make a small saving, it has induced speculation and waste of millions. The government finally recognized that the law had not been operating as intended, in a speech of Minister of Commerce Delbrück.⁶ The potash industry became the object of a two days' debate⁷ in which a lively discussion as to the employment of the propaganda money

¹ *Berliner Jahrbücher*, 1910; K. R., vol. ix, pp. 38, 224.

² K. R., vol. ix, p. 566.

³ K. R., vol. x, p. 165.

⁴ K. R., vol. x, p. 387.

⁵ K. R., vol. ix, p. 401.

⁶ *Stenographische Berichte des deutschen Reichstages*, 19. Sitzung 4 März 1902, p. 447; 20. Sitzung, 5 März 1912, p. 485. (Bd. 283.)

⁷ *Stenographische Berichte*, etc., 29. Sitzung, 30. Sitzung, pp. 470 et seq.

was a prominent feature. The tax of sixty pfennigs had yielded a sum much larger than was deemed necessary for propaganda purposes. Proposals to reduce this tax, to allow the excess to go into the imperial treasury, to spend the money more freely, as well as the more important debate on the general ill-success of the law brought at the time about no amendment. Debate was resumed in January of this year (1913), and finally a resolution was adopted to the effect that any reform or amendment to the potash law should be binding for all mines commenced after January 15, 1913.¹ Hanoverian conditions present some difficulty but it is generally expected that an amendment or revision of the imperial potash law so as to remedy some of its weaknesses will be forthcoming in the near future.²

VIII. CONCLUSION

In its influence on prices, the potash syndicate has differed somewhat from other Kartells. Except for very short periods, export prices have been higher than domestic. Having a monopoly of the products, there has been no necessity for a resort to the "dumping" which has been a practice of the steel and coal Kartells. This has always proved an effective pro-syndicate argument. Prices have certainly been steadied. Statistics of prices show no decline in the price of muriate of potash since the formation of the first agreement in 1879, and none on carnallite since 1888, the date of the formation of the first syndicate.³

¹ K. R., vol. xi, pp. 111-113.

² Meanwhile a memorial prepared by Dr. Paxmann is attracting attention. He advocates a license system by which a government concession, to be granted only when the demand for potash warrants it, shall be required for opening up a new mine. K. R., vol. xi, 1913.

³ The following figures are given by Paxmann (p. 125):

The potash syndicate has at all times attempted to secure the maximum gain, but has realized that the demand for agricultural purposes is capable of great expansion, and that the highest prices may not be the most profitable. In general, potash prices, tho not to be classed as extortionate, are said to have been higher than the demand for the product, the cost of production, or the interests of the industry itself justify. The fact that mines running at much lower than normal capacity could, in 1906, pay dividends averaging 13.5 per cent; that the cost of production was a considerably smaller part of the selling price than in other mining industries; the fact that Schmidtman and others could contract to deliver large quantities of potash at 30 per cent below prevailing prices, with the expectation of still securing profit therefrom, — all these indicate a range of prices above the competitive level.

Year	Price of Carnallite in marks per Doppelsentner	80 per cent Muriate of Potash Marks per Doppelsentner	Year	Price of Carnallite in Marks per Doppelsentner	80 per cent Muriate of Potash Marks per Doppelsentner
1861	1.60	36.00	1881	1.00	12.70-16.00
1862	1.60	30.00	1882	1.00	14.50
1863	0.80-1.60	27.00	1883	1.00	13.50
1864	0.80	24.00-19.50	1884	1.12	13.26
1865	0.80	19.50-12.50	1885	1.12	13.36
1866	0.80	12.50-13.00	1886	1.12	13.32
1867	0.80	12.50-13.00	1887	1.12	13.34
1868	0.80	12.70-13.20	1888	0.80	13.38
1869	0.80	13.00-14.50	1889	0.80	13.43
1870	0.80	13.80-18.50	1890	0.80	13.45
1871	1.10	18.16-18.50	1891	0.80	13.45
1872	0.80-1.20	18.70-16.20	1892	0.90	13.88
1873	0.80	16.00-12.00	1893	0.90	13.88
1874	0.80	13.00-12.50	1894	0.90	13.88
1875	0.80	12.50	1895	0.90	13.88
1876	0.80	12.00	1896	0.90	14.25
1877	0.80	11.00	1897	0.90	14.25
1878	0.80	9.20	1898-1906	0.90	14.70
1879	0.80	11.00			
1880	1.00	11.15			

The figures given in Stange (p. 95), Engelke (p. 38), and Schulze (p. 59) vary slightly from those given above.

The syndicate has had no effect in decreasing the expenses of production; its influence has actually been exerted in the opposite direction. The economies which have been effected by syndicate organization have been in distribution, — elimination of the wastes of competitive selling and increase in the effectiveness of advertising. But, tho these savings have been considerable, the syndicate and the legislation enacted in the attempt to check tendencies induced by syndicate policies have contributed to bring into existence such an over-supply of facilities for production that no net gain in efficiency has resulted. Since the demand for potash is only sufficient to give existing establishments employment much below normal capacity, there is good reason to believe that expenses of production are higher than they would be under competitive conditions, and that costs as well as prices would be lower.

Domestic consumers, as noted above, have fared somewhat better than the foreign. The influence of the government mines has always been exerted in the direction of lower prices for domestic consumers. Most favored have been the large agricultural associations, — in part, it is alleged, because of their political influence. The favoritism shown to these societies has led to many complaints from potash dealers. The syndicate finally made some concessions to the dealers in 1905, but did not place them in every particular on a footing with the agrarian associations.¹ After 1909, when the restrictions on combination among dealers were removed, a large number of dealers' organizations sprang up to take advantage of the rebates given for purchase in large quantities. But the agricultural associations

¹ Helmanna, pp. 15, 35.

are still favored. The attitude of dealers has generally been unfriendly to the syndicate.

One must not neglect to give the potash combination credit for what it has accomplished in connection with its propaganda work. By the distribution of publications, exhibits at important agricultural shows, fertilizer experiment stations, and other methods, it has conducted a general educational campaign on the use of fertilizer, potash especially. The efforts of the syndicate to keep up the standard of the products and to insure prompt deliveries are also commendable.

The membership of the Prussian government has given the potash syndicate a character distinct from other Kartells. Far from being a passive member, the government has always exerted a large influence upon syndicate policy. More than once it has directed its energy toward keeping the organization intact in the numerous crises through which it has passed. In the negotiations of 1879, 1888, 1898, and 1901, the fisc took an active pro-syndicate part; when renewal came up in 1903, the Prussian fisc took the initiative; in 1908, the government early directed its influence toward renewal. It cannot be seriously doubted that, had not the Prussian government played the part it did, the syndicate would early have gone to pieces.

The opinion so often expressed during the progress of syndicate negotiations that in the continuance of the syndicate lay the only means to avoid the ruin of a number of enterprises and losses to thousands of investors, was undoubtedly correct.¹ But one may doubt whether or not it was wise to enter into combination to preserve the profitableness of all the undertakings, when the policy of procrastination, as one might term it, caused and will continue to cause much greater

¹ It is said that bankers would extend credit only to those mines whose intention to enter the syndicate was known. K. R., vol. v, p. 307.

losses. Free competition during the eighties would have been attended with losses smaller than in the decade 1900 to 1910, or none at all. The dependence of the value of potash enterprises upon the existence of the syndicate is clearly shown in the course of the market for potash securities during the past decade. It is reasonable to suppose that under the rule of competition the enormous over-investment of capital in potash enterprises would largely have been avoided. When all is said for and against the syndicate, one may doubt whether the potash industry is, as a whole, in 1913, in a more flourishing financial condition as a result of the existence of combination.

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INDUSTRIAL BOUNTIES AND REWARDS BY AMERICAN STATES ¹

SUMMARY

Direct grant one of many forms of state aid, 192. — Bounties on mulberry trees and silk, 193. — Hemp, flax, jute, and ramie, 197. — Woolen yarn, 199. — Binding twine, 199. — Starch, 199. — Iron and iron pipe, 199. — Cordage, 199. — Cards, 199. — Wheat and corn, 200. — Salt, 200. — Artesian wells, 201. — Timber and shade trees, 201. — Sugar, 202. — Chicory, 202. — Rewards on arms and powder, 203. — Sheep and woolen cloth, 203. — Canaigre and leather, 203. — Wheat, oats, and potatoes, 204. — Salt, 204. — Coal mine and artesian and oil wells, 204. — Methods of treatment of ores, 205. — Timber and shade trees, 205. — Sugar, 205. — The California reward act of 1862, 205. — The question of public policy and constitutionality, 206.

THE claims of our national ward, Infant Industry, have been constantly presented before Congress and also before our state legislative bodies, but with results which have received too little comprehensive attention from the student of public affairs. True, there is no end to the discussion of the protective tariff, tho the economist has long since satisfied himself as to the theoretical aspects of the subject. Our two experiments with national bounties — fisheries in 1813 and sugar in 1890 — are recognized as noteworthy instances of departure from what has come to be the established method of protection. Little is known, however,

¹ This study was undertaken with a two-fold purpose: first, of course, to present a true statement of the subject chosen; second, to show something of the wealth of materials of economic history scattered throughout the dusty files of the session laws. As over a hundred acts are considered, it has seemed impracticable to give specific citations except in case of acts still in force. Furthermore, it is unnecessary, since any person who knows the year can easily find any desired act.

of the measures adopted by the state governments to establish and promote home industries through favorable legislation; yet the files of the session laws contain abundant and unimpeachable evidence that from earliest colonial times our local legislative assemblies have actively concerned themselves with such matters, thus maintaining a direct relationship between American state subventions and the British and Continental bounty systems of two and three centuries ago.

This is not the time or the place for a general treatment of state encouragement of industrial enterprises. There must be much searching among scattered source materials before an adequate basis of fact can be established; and the results, when obtained through the efforts of many, could hardly be presented within the limits of a single article. For the scope of state activity in this direction has been limited only to the extent that the imagination of legislators and of lobbyists has been limited. It includes such measures as patents of monopoly; grants in aid of individuals engaging to construct certain machinery, to perfect certain manufacturing processes, or to produce certain goods; grants of land or of lottery privileges for the construction of mills; exemption from militia service of operatives in mills; exemption from taxation, tax drawbacks, and limited rates of assessment upon industrial property; bounties and rewards, or grants of money, in aid of certain branches of industry; and also enabling acts authorizing local governmental bodies to extend similar favors. This paper will be limited to a summary consideration of state industrial bounties and rewards, tho incidental reference will be made to some of the colonial precedents.

From earliest colonial times until late in the last century, attempts were made to introduce silk culture

in America. Virginia in 1623 required the planting of mulberry trees, and offered a bounty on reeled silk. South Carolina, Pennsylvania, New Jersey, and possibly other provinces took similar action, but with little success. White mulberry trees¹ were introduced in Mansfield, Connecticut in 1760, and without the stimulus of a bounty this town soon became an active center of silk culture. In 1783, Connecticut came to the aid of the industry with an act which offered a bounty of ten shillings for every hundred mulberry trees and three pence for each ounce of raw silk. This was repealed in 1784, by an act which provided for a bounty of two pence per ounce of silk, to be paid out of the duties arising from the importation of foreign goods into the state, as established by another act passed at that session. The only state which seems to have been influenced by the action of Connecticut was New York, which in 1791 offered a bounty of six shillings for every fifty mulberry trees up to two hundred.

The Connecticut bounty had little effect except in the vicinity of Mansfield, where considerable sewing silk was produced. It expired in 1794, but the silk industry continued to prosper, as is evident from the reports of the national census of 1810.² In 1825, Congress became interested; and the following year the House of Representatives directed Richard Rush, Secretary of the Treasury, to prepare a manual on the growth and manufacture of silk. The result was a comprehensive report of over two hundred pages,

¹ The leaves of the native red mulberry are not suitable for silk worm feeding.

² Connecticut produced sewing silk and raw silk valued at \$28,503; of which Windham county produced \$27,375; Tolland county, \$774; and New London county, \$354. In Hampshire county, Massachusetts, 108 pounds, valued at \$618, were produced. Burlington county, New Jersey, reported 1800 "yards made" by a single tax establishment, the value being \$1800, but the nature of the product is not indicated. — Tench Coxe, *American Manufactures*, pp. 5, 28, 39.

which was published in 1828.¹ This report, commonly known as the "Rush letter," aroused interest throughout the country. A convention was held at Mansfield to seek aid of Congress,² but without success. The natural result was a general appeal to the state legislatures.

Connecticut responded in 1832, with an act which offered bounties of fifty cents a pound on reeled silk and one dollar for every hundred mulberry trees. This act was repealed in 1839. Massachusetts in 1835 offered a bounty of fifty cents a pound on cocoons, but reduced this to ten cents the following year, adding bounties of fifty cents a pound on reeled silk and one dollar a pound on reeled and thrown silk. Other bounty acts were passed in 1839 and 1845, the latter being effective for three years only. Vermont, also in 1835, offered a bounty of ten cents a pound on cocoons, and in 1838 bounties of twenty cents a pound on reeled silk and sewing silk. In 1840, the legislature by special act directed the state treasurer to pay to Sally Fisher of Calais twenty cents for each pound of woven silk which she should make from native cocoons. By another act, approved only a day later, it offered a general bounty of twenty cents a pound on woven silk, and withdrew the bounty on sewing silk. In 1844 it offered bounties of fifteen cents a pound on cocoons, reeled silk, and sewing silk. The system was abolished in 1845. Maine passed a silk bounty act in 1836, which was repealed as obsolete in 1903. Delaware, which in 1829 had offered medals

¹ 20 Cong., 1 Sess., H. doc. 158.

² "We find from experience and observation, that mankind are more easily induced to engage in those branches of business which afford an immediate profit; and require something to stimulate to engage in a business which must be matured by the revolutions of seasons. It is this stimulant, which it is the peculiar duty of the Government to afford." — Memorial of sundry inhabitants of the counties of Windham and Tolland. 20 Cong., 1 Sess., H. doc. 159.

for the growth of mulberry trees, offered silk bounties in 1837, 1839, and 1843, the last of which expired in 1845. New Jersey and Georgia passed such acts in 1838, but repealed them after a year. The Pennsylvania act of 1838 expired in 1843. Illinois and Ohio in 1839 adopted bounty laws which respectively expired in 1842 and 1844. New York joined the silk bounty states in 1841 for a period of five years.

These laws were not obtained without vigorous efforts on the part of promoters, one of whom went so far as to propose silk culture as "a substitute for railroads, canals, and navigable rivers." Theoretically the argument was unassailable. "Those sections of the country that are too far from navigable rivers to have the advantage of cheap transportation for their present productions have no other remedy than the construction of railroads or canals, and if they are unable to construct either of these, they are absolutely without a market. For a state of things like these there is but one remedy," which of course was the culture of silk, "which will bear the present charges and yet leave the producer a profit."¹

The decade of the thirties is remembered as a period of excessive speculation in lands and in railroads, and it was only natural that the wide-spread movement for the introduction of silk culture should have attracted those who cared for nothing except immediate profits. The opportunity was found in the mulberry trees, the supply of which was limited. These trees changed hands at rapidly rising prices, and the ultimate returns from the production of silk were put forward as a lure by those whose aim was direct profit through exploitation of a temporary market. The bubble burst in 1839, and within a few years a blight destroyed many

¹ *Journal of the American Silk Society*, II, p. 53.

of the trees.¹ That this mania was not without its effect upon the minds of contemporary legislators is indicated by the number of repealing acts which have been mentioned. Yet the sewing silk industry made some permanent advance at this time, and factories were established at Paterson, at South Manchester, Connecticut, and at Northampton.

After an interval of many years, California, unmindful of the experience of eastern states, became ambitious to be known as a center of silk production. It was urged that the freedom from electric storms was a condition favorable to the worms, and that no artificial heat would be required for hatching the eggs. Accordingly a bounty act was passed in 1866, but was soon found to have been so loosely drawn as to afford little protection to the treasury. It was supplanted in 1868 by an act of like intent, by which the state offered to each person a single bounty of two hundred and fifty dollars for growing five thousand or more mulberry trees and also offered a general bounty of three hundred dollars for the production of each hundred thousand cocoons. An attempt was made without delay to plunder the state treasury by drawing imaginary lines through each tract of land set with the trees so as to include in each subdivision the minimum five thousand and establish the basis of a claim for plural bounties. Such claims were allowed by the board of judges chosen to administer the law, but were set aside by the supreme court.² The act was repealed in 1870 without having accomplished its purpose.

¹ Wyckoff, *Report on the Silk Manufacturing Industry*, Tenth Census, II, pp. 920-921; Brockett, *Silk Industry in America*, pp. 38-40; Cowdin, *Report to the Department of State on Silk*, p. 12.

² *Attorney General v. Board of Judges*, 38 Cal. 291; *Message of Governor H. H. Haight*, 1869, pp. 20-21.

Kansas, by an act passed in 1887, provided for a board of silk commissioners to establish and conduct a state silk station and to encourage state wide production of silk by various means, among which was the payment of bounties. No appropriations for bounties were made at subsequent sessions of the legislature, and it does not appear that any were paid. The undertaking was abandoned in 1897, and the sale of the station was ordered the following year. Utah in 1896 passed an act which authorized the appointment of a silk commission, and offered a bounty of twenty-five cents a pound on cocoons for a period of ten years. Under this act several thousand pounds of cocoons were presented for bounty each year until 1905, when the commission was abolished and the bounty offer withdrawn.¹

While silk was the favorite subject for encouragement by means of bounties, other textile materials were also aided in this manner. Parliament offered bounties to promote the production of hemp and flax in the American colonies; and the majority of the colonial assemblies established bounties on one or both. Linen bounties were also common; and New Hampshire and Massachusetts gave bounties on cards. These attempts resulted in almost complete failure.

New York offered the first state bounty on hemp by an act of 1788, which provided that eight shillings should be allowed on each hundred weight. The act was in force until 1795. Connecticut, by an act passed in 1804 and repealed in 1813, gave hemp bounties at the rate of ten dollars a ton. New Hampshire in 1811, offered a bounty of five dollars for five hundred pounds of hemp produced by any inhabitant of the

¹ Utah Silk Commission, Reports, 1899-1904.

state in any one year, and one dollar for each hundred weight in excess of the minimum. This appears to have been in force until 1824.

New Jersey in 1880 passed an act to encourage the production and treatment of fibres, which offered bounties at the rate of five dollars a ton for jute and rose or marshmallow, six dollars a ton for hemp, seven dollars a ton for flax, and ten dollars a ton for ramie or China grass. In order to encourage the perfection of machines for removing the fibre from the stalks, bounties were also offered for disintegrated jute at the rate of two and a half cents a pound; for cleaned hemp, three cents; for cleaned flax, three and a half cents; and for disintegrated ramie, five cents. As a special inducement to ramie culture a bounty of ten cents a pound was offered on ramie yarn ready to weave. These bounties were limited in aggregate to fifteen thousand dollars, which was appropriated in equal parts for stalks, fibre, and ramie yarn. The disappointing results of the law were reported by the secretary of the state bureau of labor and industry, who had been active in getting it enacted. The whole of the appropriations for stalks and for fibre was granted on flax straw and cleaned flax. "Notwithstanding the liberal bounties offered for the cultivation of jute, ramie, and hemp, we cannot learn that any persistent effort has been made to raise these plants in New Jersey, and it is not at all probable that the \$5000 remaining unpaid out of the appropriation of \$15,000 will be called for before the time specified in the law at which paying of bounties shall cease, viz., the first day of April, 1885."¹

California in 1891 attempted to introduce ramie culture by an act which provided among other things

¹ Annual Report, 1883-84, p. 319.

that the state board of agriculture might give bounties of not over a cent a pound on the fibre, but the act was declared unconstitutional on technical grounds in 1892. North Dakota in 1895 offered a bounty of one dollar for each hundred pounds of long line spinning fibres, either flax or hemp, and spinning tows. This expired in 1900; and the reports of the state auditor fail to show that any payments were made.

In a few states bounties on manufactures have been offered. Connecticut in 1788 promised a bounty of a penny a pound on woolen yarn spun within the next year. North Dakota established a bounty of two dollars a ton on binding twine in 1890, and in 1895 one of a dollar a ton for five years; but it does not appear that bounties were paid under either act. This state, also in 1890 and 1895, offered a bounty of a cent a pound on potato starch for terms of five years, and payments were made under both acts. A Utah act of 1890 provided for bounties, limited to thirty thousand dollars during a period of two years, on manufactured iron at two dollars a ton, cast iron or wrought iron pipe at five dollars a ton, rope or twine at a cent a pound, and sugar from sorghum or other sugar bearing plants at a cent a pound. But under this act a claimant for bounty on manufactured iron must have erected a plant at a cost of one hundred thousand dollars, with a capacity of twenty tons a day; and similar qualifications were required of claimants of the other bounties. There were other requirements which served to protect the interest of the state more adequately than was done in most laws of the kind. Alabama in 1861 offered bounties on cotton and wool cards for a period of two years.

Bounties on grain were common in colonial times, but they have been granted by only two states. Maine

in 1837 established a bounty on wheat; in 1838, it added a bounty on Indian corn. The rates varied according to the amounts produced, ranging from three to ten cents a bushel on wheat and from ten cents a bushel to two dollars for thirty bushels on husked ears of corn. These acts were repealed in 1839. Massachusetts, by an act passed in 1838, offered a bounty of two dollars for fifteen bushels of wheat, and five cents for each additional bushel. This act expired in 1841. Large sums were paid out by both states under these laws.

Salt bounties have been granted in three states, but for different purposes. After several years of experimentation with native brine, Michigan in 1859 passed an act to encourage the manufacture of salt, offering a bounty of ten cents a bushel. This gave place to another act, in 1861 providing for a bounty of the same amount on each barrel of five bushels, which was repealed in 1869. New York in 1822 passed an act with the declared purpose of encouraging the manufacture of coarse salt in the western district of the state. This offered a bounty of three cents a bushel on salt delivered at the Hudson or at Lake Erie, or shipped from Oswego into Upper Canada during a five-year period beginning in 1827. It seems probable that this was really intended to stimulate traffic on the state canals and so increase the returns from tolls. This supposition is strengthened by the fact that in 1843, another bounty act was passed "to increase the revenues of the state." By this act a complicated schedule of bounties was established, not only on salt but also on coal, lead, and gypsum, the rates varying with distances as well as weights. There was also a bounty on empty barrels passing over the canals, which was in effect a drawback of the amount by which

the tolls exceeded the rates on an equal quantity of staves and heading. It was repealed in 1846. Alabama in 1861 authorized the leasing of all salt wells belonging to the state and the payment to the lessee of a bounty of ten cents for each bushel sold to citizens of the state, but the provision for a bounty was repealed a year later. The obvious purpose of this act was to insure against a salt famine on account of the cutting off of existing sources of supply by the public enemy.

Bounties to encourage prospecting for a belt of artesian water were established by Nevada in 1879 and in 1887, by acts which in amended form are still in force.¹

Minnesota was the pioneer in the granting of bounties for the planting of timber and of shade trees along highways, having passed laws in 1873 and 1881, which after frequent amendments are in force today. The law as it now stands offers to any person who shall plant one acre of prairie land with forest trees and keep them in a thrifty condition, two dollars and fifty cents an acre for six years, provided such bounty shall not exceed twenty-five dollars to any individual in any one year. For the purpose of paying such compensation, there is a standing appropriation of \$20,000 each year.² Similar acts were passed by Colorado in 1881, Dakota in 1885, and by North Dakota and South Dakota in 1890. The Colorado law was declared unconstitutional on technical grounds in 1892. Connecticut in 1881 offered a bounty for planting trees along highways. The terms were made more liberal by an amendment in 1885, but up to 1909, only about a thousand dollars had been paid out in bounties at the rate of a few dollars to a few persons each year. The rate was formerly ten cents a tree;

¹ Rev. L. 1912, §§ 702-711.

² L. 1913, c. 76, amending Rev. L. 1905, §§ 2391-2395.

under the present law it is twenty-five cents.¹ As to the need for such a law in a well-wooded state like Connecticut, comment would seem to be superfluous.

As early as 1837, Massachusetts offered a bounty on beet sugar at the rate of three cents a pound for five years, and a factory was established at Northampton but soon abandoned. Again this state in 1883 established a bounty of one dollar a ton on sugar beets or sorghum cane for three years, and a factory was established at Franklin. In 1887, Maine passed an act authorizing the governor and council to contract with any responsible party or company to pay a bounty not to exceed a cent a pound on all beet sugar manufactured in the state from native beets through a period of ten years. As a result of this act a factory was established at Portland. Michigan and New Jersey passed sugar bounty laws in 1881. Michigan offered two dollars on each hundred pounds of sugar for five years. New Jersey for a like period offered a cent a pound on sugar, to be paid to the manufacturers; and a dollar a ton on sugar beets or cane, to be paid to the growers. Under this act a factory was established at Cape May. Kansas in 1887 offered a bounty of two cents a pound on sugar for five years; and Nebraska, by an act passed in 1889 and repealed in 1891, offered a sugar bounty of one cent a pound. This completes the record to 1890. To carry the discussion further would be to trespass upon ground which has already been covered by a note in this Journal.² It should be mentioned, however, that the Nebraska beet sugar act of 1895 also offered bounties on chicory.

¹ Pub. Acts, 1909, c. 86.

² Cherington, "State Bounties and the Beet Sugar Industry," vol. xxvi, pp. 381-396.

The terms "bounty" and "reward" are closely allied in meaning, but strictly speaking the use of the former is appropriate only in cases where the action of many is desired, and each may obtain the promised compensation without reference to the claims of others; while the latter is properly used only in cases where a premium is offered for a service which can be performed only once by one or at most a few, who succeed while others fail. Needless to say, no such distinction is found in the statutes, and a study of one cannot be made without reference to the other.

With the double purpose of providing for the public safety and of encouraging manufactures, North Carolina in 1794 offered rewards for the best musket and bayonet, horseman's pistols, and horseman's sword made in each brigade (militia district) in the state; also for the greatest quantity of powder made in each superior court district. These rewards were to be given each year for three years.

New York passed two acts in 1808 with the purpose of encouraging the woolen industry. One offered a reward for the introduction of the first thorobred Merino ram in each county of the state where there was none, within three years. The other offered a series of annual rewards for three years for the best specimens of woolen cloth, and an additional reward for such cloth made in the home. Utah in 1854 offered premiums for the greatest yield of flax seed and lint and of hemp lint. A similar act in 1855 also provided for rewards for "tame" sunflower seeds. In 1857, an attempt was made to encourage the raising of cotton, indigo, and madder.

In 1896, Utah came to the aid of the leather industry by an act which offered a bonus of a dollar a ton on the first twenty thousand tons of canaigre produced and

used in the manufacture of leather, and another reward of a thousand dollars to the person or corporation who would first make fifty thousand pounds of leather tanned with canaigre roots.

Massachusetts in 1838 offered, in addition to a bounty on wheat, a reward of one hundred dollars to the person in each county who would raise the greatest quantity of wheat in any one year on one farm. Wyoming in 1890 offered rewards, in addition to those which had been offered by an agricultural journal, for the greatest yield of potatoes, oats, and wheat, each upon a single acre.

Vermont, by an act passed in 1827, authorized the state treasurer to pay to the Vermont Salt Manufacturing Company, the sum of five hundred dollars as a premium on the first five hundred bushels of salt manufactured from water obtained by boring in Montpelier.

In the far west, the reward has been employed as an incentive to prospectors. Utah offered a reward of a thousand dollars in 1854 for the opening of a good coal mine within forty miles of Salt Lake City. The reward was claimed in 1860, but was refused on account of excessive distance and inferior quality of the coal.¹ Colorado in 1870 adopted a law to promote agriculture by irrigation, which offered a reward of two thousand dollars to the person who, under carefully prescribed conditions, would sink an artesian well to a depth of a thousand feet or such less distance as might be necessary. Arizona in 1873 offered the sum of fifteen hundred dollars as a reward to the person who should first obtain a stream of flowing artesian water not less than ten miles from a living stream. In 1901, Nevada passed an act to encourage the boring of wells in searching for oil, natural gas, and artesian water. This

¹ *Legislative Journal*, 1860-61, p. 73; 1862-63, pp. 65-66.

act, which is still in force, offers a reward of one thousand dollars to the person who first furnishes five barrels of crude petroleum, and a like sum to the discoverer of natural gas to the extent of one thousand cubic feet; also twenty-five hundred dollars to the person first to sink a six-inch well to a depth of one thousand feet and obtain a flow of sixty gallons of water a minute. It is also provided in this remarkable piece of legislation, that any person who receives any of the rewards must enter into a contract to reimburse the state if he succeeds in developing his enterprise to a marketable stage.¹ In 1887 the same state passed an act to encourage the mining and milling of ores containing precious metals, by which it was provided that a series of rewards should be given for the most economical and also for the most successful method of treatment and reduction of ores.

Minnesota from 1867 to 1889 provided for annual rewards to be given through the state board of agriculture for the best five-acre tract of cultivated timber or continuous half mile of hedge.

Rewards to encourage the sugar industry have been offered by Delaware and Utah. Delaware in 1877 appropriated three hundred dollars to be used in 1877 and 1878 for premiums for beets containing the greatest quantity of sugar, and two years later appropriated fifteen hundred dollars for the years 1879 and 1880. Utah in 1880 offered two thousand dollars as a reward to the person who would produce the best seven thousand pounds of sugar within that year, and in 1882 offered five thousand dollars to be paid under the same conditions in either 1882 or 1883.

The California reward act of 1862 has been reserved for separate notice, not only because it was unique

¹ Rev. L. 1912, §§ 712-717.

but also because it shows how far a state may go in the attempt to foster home industry. This act offered one hundred and thirty-nine premiums, aggregating \$129,850, on fifty-three agricultural and manufactured products, comprising textile fibres, cloth, carpets, clothing, boots and shoes, paper, naval stores, cordage, indigo, rice, sugar, vegetable oils, tea, coffee, hops, wine bottles, and exported beer. It was amended in 1863, and finally repealed in 1870, after less than half the amount offered had been paid.¹

In the foregoing pages but three southern states have been mentioned — Alabama, North Carolina, and Georgia — and the first two only in connection with acts passed for military reasons. Yet the southern colonies, particularly South Carolina, had been most active in the giving of bounties. The main reason for this change of attitude was undoubtedly the general acceptance of the Jeffersonian idea that the state should interfere as little as possible in matters primarily affecting the individual, and that the words "public purpose" should be most strictly construed. Had this idea prevailed throughout the rest of the country, the states would have been spared an unnecessary drain upon their treasuries, and private individuals would not have been encouraged to waste their capital in enterprises unsuited to their surroundings. Fortunately, however, the courts have not been able to approve a system which results in a general tax for the good of a single class. In an opinion as to gifts of money by towns in aid of manufacturing enterprises the supreme court of Maine declared: —

Capital naturally gravitates to the best investment. If a particular place or a special kind of manufacture promises large returns,

¹ California State Agricultural Society, Transactions, 1863; Messages of Governor Leland Stanford, 1863; Inaugural address of Governor H. H. Haight, 1867, and Message, 1869.

the capitalist will be little likely to hesitate in selecting the place and in determining upon the manufacture. But whatever is done . . . it is done with the same hope and expectation with which the farmer plows his fields and sows his grain, — the anticipated return.

Now the individual or corporate manufacturing will in the outset promise to be, and the result will be, either a judicious and gainful undertaking, or an injurious and losing one. If the manufacturing be gainful, there seems to be no public purpose to be accomplished by assessing a tax on reluctant citizens, and coercing its collection to swell the profits of successful enterprise. If the business be a losing one, it is not readily perceived what public or governmental purpose is attained by taxing those who have received no share of the profits, to pay for the loss. . . . The tax payer should not be compelled to pay for the loss when he is denied a share of the profit.¹

In every case in which bounty acts have been attacked upon grounds of public policy, the courts have declared them unconstitutional. Thus the Michigan supreme court declared of the sugar bounty of 1897:

It is void whether it comes within any of the express provisions of the constitution or not. It is not a law, but an act which attempts to take the property of one citizen, and turn it over to another; to compel one class to donate a part of its property to another.²

This ruling was followed by the supreme court of Minnesota in a case concerning the sugar bounty act of 1895,³ and by the Nebraska supreme court in a case concerning the sugar and chicory bounty act of 1895,⁴ and also in a federal case relating to a local bounty.⁵ The Michigan case, therefore, assumes increased importance; but when we come to examine

¹ Opinion of the Judges, 58 Me. 590 (1871), citing *Sharpless v. Philadelphia*, 21 Pa. 147 (1853).

² *Michigan Sugar Co. v. Auditor General*, 124 Mich. 674, 678 (1900).

³ *Minnesota Sugar Co. v. Iverson*, 91 Minn. 30 (1903).

⁴ *Ornard Beet Sugar Co. v. State*, 78 Neb. 66 (1905).

⁵ *Dodge v. Mission Township*, 107 Fed. 827 (1901). An earlier local bounty case is *Deal v. Mississippi County*, 107 Mo. 464 (1891).

it, we find that it is based upon the decision by Justice Cooley in a railroad subsidy case, which aroused quite as great a storm of protest in its time as the state bounty decisions. It is fitting, therefore, that this paper should close with the words of that great jurist, who said:

The state can have no favorites. Its business is to protect the industry of all, and to give all the benefit of equal laws. It cannot compel an unwilling minority to submit to taxation in order that it may keep upon its own feet any business which cannot stand alone. Moreover, it is not a weak interest only that can give plausible reasons for public aid. When the State once enters upon the business of subsidies, we shall not fail to discover that the strong and powerful interests are the most likely to control legislation, and that the weaker will be taxed to enhance the profits of the stronger.¹

FRED WILBUR POWELL.

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¹ *People v. Township Board of Salem*, 20 Mich. 452, 466 (1870).

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THE FEDERAL RESERVE ACT OF 1913

SUMMARY

I. Spirit and objects of the act, 213. — Advantages of the plan of regional banks, 216. — II. Organization of the system, 222. — Directors of the Federal Reserve Banks, 224. — Federal Reserve Board, 226. — III. Capital, earnings, deposits of the Federal Reserve Banks, 228. — New reserve requirements for national banks, 231. — IV. Clearing House functions of the Federal Reserve Banks, 234. — V. Federal reserve notes, 237. — National bank notes, 241. — VI. Lending operations of Federal Reserve Banks, 243. — How far operations with general public, 245. — VII. Additional powers granted to national banks, 249. — VIII. Supervisory functions of Federal Reserve Board, 251. — Probable relations of this Board to directors of Reserve Banks, 252.

I. THE SPIRIT AND OBJECTS OF THE ACT

THE primary purpose of the Federal Reserve Act of December 23, 1913, is to make certain that there will always be an available supply of money and credit in this country with which to meet unusual banking requirements. Banks of a new class, to be known as Federal Reserve Banks, are to be established, and upon these banks is to rest the heavy responsibility of supporting the structure of credit in periods of financial strain. The new banks are expected to keep them-

selves in a condition of such strength in ordinary times that the other banks may safely rely upon them for all needed cash and credit in emergencies. In the past, the banks in this country, when subjected to financial pressure, have relied mainly upon loan contraction and the selling of securities. In future it is expected that they will resort to the Federal Reserve Banks, securing additional funds from these by rediscounting commercial loans. If the new arrangements work well, loans in future will not be reduced merely for the purpose of strengthening the banks. Loan contraction will take place only when there is evidence of an over-extended condition of business; and even then contraction will be carried through gradually, so as to conserve all interests so far as may be possible. Under the new system a most important influence, if not the most important single influence determining the character of banking operations, will be just the reverse of what it has been in the past.

To meet the heavy responsibilities placed upon the Federal Reserve Banks, two things are absolutely essential — good management, and ample powers and resources. Good management cannot be secured with certainty by means of legislative provisions, however carefully designed with that end in view. In the particular instance of the Federal Reserve Act, an ingenious combination of government and banking influence in selecting the management is provided. Purely banking operations are very largely to be handled by boards of directors, a majority of the membership of which is to be chosen by banks. General supervision, and for some purposes control, is placed with the Federal Reserve Board, which is to be appointed by the President of the United States, by and with the advice and consent of the Senate. Experience alone can deter-

mine the wisdom of these arrangements for securing effective management.

The Federal Reserve Banks are to exercise wide powers, and would seem likely to have ample resources. The country is to be divided into not less than eight, nor more than twelve districts, in each of which a Federal Reserve Bank is to be established. All national banks are required, and qualified state banking institutions are invited, to subscribe to the capital of the Reserve Bank of their district. Subscribing banks, to be known as member banks, are required to keep a part of their reserve with their Federal Reserve Bank. These banks will presumably receive most if not all of the general funds of the United States Government. They will provide an elastic currency, issuing notes secured by their commercial assets. They are also empowered to undertake the business of collecting and clearing checks throughout the entire country, thus providing an organization for making settlements between banks in different places, the lack of which has been one of the most serious defects in our banking system.

Each Federal Reserve Bank will be a central bank for the section of the country which it is to serve. It will have all of the responsibilities and most of the powers of central banks in the various European countries; but largely because the system is to be superimposed upon a fully developed banking system, some important provisions of the Federal Reserve Act are unlike anything to be found in European legislation. The Federal Reserve Banks are to receive deposits from the government and from member banks only. Ordinarily they will lend to member banks only. All European central banks, tho the bulk of their business is with banks and bankers, may deal with the general public and do so. The most striking divergence from

European example, however, is the really novel plan of a system of regional banks in place of a single central bank. But the extent of this divergence is generally exaggerated. Political boundaries are indeed in large measure economic and financial boundaries as well; but central banks in the European countries do act and react upon each other, often working in harmony, and yet at times very much at cross purposes. If all Europe were brought under a single government, very likely the various existing central banks would be merged into a single institution. In some respects this would be advantageous, but it would not be absolutely necessary. Certainly European arrangements are not so fundamentally unlike those of a system of regional banks in a single country of great size, as to afford ground for the opinion that in setting up this system foreign experience has been altogether disregarded.

The various considerations which led to the adoption of the plan for regional banks, rather than a single central institution, deserve careful attention, since they indicate the spirit and purpose of the Federal Reserve Act. A single central bank was the solution of the banking problem reached without a dissenting voice by the members of the National Monetary Commission. The bill which the Commission prepared was a notable achievement. Pioneer work tho much of it necessarily was, very few defects on the technical banking side were disclosed in the discussion which followed the statement of the proposed measure. Its provisions regarding banking operations, including relations with other banks, are embodied with few changes of an essential character in the Federal Reserve Act. Most of the important differences between the bill and the Federal Reserve Act reflect differences in spirit and purpose rather than in methods. A central bank and also the

system of regional banks necessarily involve placing somewhere very extensive power to influence and control credit. In the present temper of public opinion, the possession of great economic power is not tolerated in the absence of a large measure of government supervision and control. But unfortunately, in framing its measure the Monetary Commission failed to realize the fundamental importance of this consideration as a factor in securing general public approval. In devising a form of organization, competent management and approval in banking circles were evidently the controlling factors. An organization was proposed under which out of forty-five directors, but three were to represent the government, the remainder being selected in various ways by bankers. Support from some who were the most bitter opponents of the measure might have been secured if the bill had provided for a larger measure of government control; but an equal or even greater number of adherents would probably have been lost. Under the plan of the Commission and indeed under any central bank plan, government supervision and control cannot be made effective without at the same time placing the details of operation in charge of government officials. Few of the most ardent advocates of a central bank were prepared to take this extreme step.

Under the plan of organization of regional banks, the difficulty of combining government control and private management vanished. Purely banking matters, such as the granting of loans, could be placed with boards entirely or mainly composed of persons selected by the bankers whose funds were to provide most of the necessary resources. On the other hand, supervision and whatever measure of control might be deemed advisable, could be placed with a board mainly or entirely

appointed by the President of the United States. Differences of opinion may be entertained regarding the particular arrangements in the Federal Reserve Act for selecting the various administrative bodies, and regarding the division of power between the directorates of the Federal Reserve Banks and the Federal Reserve Board. If experience should disclose defects in this form of organization, it is flexible enough to permit at any time an extension of government or of banking influence.

✓ Another important advantage of the regional system is to be noted. The operation of a central bank would be far more likely to give rise to sectional antagonism. This danger was apparently fully realized by the members of the National Monetary Commission, and elaborate arrangements for selecting the management were devised in order to make certain that each section of the country should be properly represented. But obviously regional banks, managed by local people, are very much more certain to meet this requirement. Apparently it was an endeavor to remove still further the danger of sectional dissatisfaction that led the Monetary Commission to make its one serious departure from sound banking principle in framing its bill. A provision was inserted requiring rediscounts to be made at a uniform rate throughout the entire country, regardless of the wide differences in the demand and supply of capital, which occasion the existing wide differences in lending rates. Under the regional plan no such indefensible provision was found necessary. This important feature of the Federal Reserve Act outweighs such advantages in economy of resources and effectiveness in management as were sacrificed in substituting for a central bank the regional banks.

The Monetary Commission in framing its bill seems to have been guided by two principles generally wise

in legislation — the scope of the measure was limited to the single purpose of removing purely banking defects in our banking system, and no greater departure from existing arrangements was proposed than was essential for the purpose in hand. The Federal Reserve Act certainly runs counter to the first of these principles. Its primary purpose is similar to that of the bill of the Monetary Commission; but a secondary purpose evidently exercised a potent influence. This purpose was to decentralize credits by lessening the concentration of banking funds in a few large banks in the chief financial centers, and especially in New York. The regional system itself gained much support because it was believed by many that it would lessen the financial predominance of New York City. No comprehensive scheme of legislation with this object in view was inserted in the bill; but wherever two or more means of accomplishing the primary purpose of the bill were open, that one was evidently selected which it was believed might tend toward decentralization. In general the desire to decentralize credits explains why the act makes very much greater changes in existing arrangements than were proposed in the bill of the Monetary Commission. In the latter, the practice of depositing a part of the required reserves of the banks with reserve agents was left undisturbed. Under the terms of the Federal Reserve Act, such deposits are to be reduced by successive instalments, and discontinued entirely three years after the passage of the Act. From a purely banking point of view, much can be said for this great change; but it was certainly not absolutely necessary in order to secure the desired improvements in the working of our banking system.

The new banking institutions for which the Federal Reserve Act makes provision cannot be put in success-

ful operation (and in this it resembles the bill of the Monetary Commission) unless a considerable number of the existing banks enter into relations with them. An institution might have been established with large capital, and a monopoly of the right of note issue, authorized to act as government fiscal agent, and to deal with the general public. Such an institution would presumably in the course of time have become a central bank, the main reliance of other banks in emergencies. In order to avoid competition with existing banks, the act provides that the receipt of deposits by the Federal Reserve Banks, and their normal lending operations shall be confined to those banks which subscribe to the capital and maintain balances with them. Obviously, then, if banks in large numbers do not accept the arrangement, subscribing to the capital and relying upon the new banks for accommodation, the system cannot be put into effective operation. Moreover, it is necessary that many banks shall enter the system at the outset. An attitude of hesitation would change to one of positive distrust, if the initial response were inadequate.

In the case of the bill of the Monetary Commission, reliance was placed simply upon the attractiveness of the measure. No bank would have suffered positive loss from failure to enter the system, tho certain slight inducements were held out to those banks which accepted the arrangement at the outset. Whether a sufficient number of banks would have entered that system, if it had been established, may be thought probable but is not certain. Bankers are naturally and properly a conservative class and the inclination of many would have been to wait until the system was in successful operation. The attitude of bankers toward the Federal Reserve Act while it was passing through Congress was distinctly unfavorable. Most of its

provisions already referred to, as well as others in which it differed from the Monetary Commission bill, were disliked. It was evident that in the absence of positive pressure, the number of banks which would accept its terms would be too small to make successful operation possible. No attempt was made, however, to insert provisions which would bring pressure upon State banking institutions. Perhaps it would be possible, either under the inter-state commerce or the postal clause in the Constitution; but it would have been contrary to the constitutional traditions of the party in power, and it was not necessary. If the national banks very generally enter the system, the resources of the Federal Reserve Banks will be sufficient to test the effectiveness of the measure. Accordingly the Federal Reserve Act contains a number of provisions designed to bring pressure to bear upon these to enter the system immediately. Failure to accept the terms of the act within one year after its passage involves forfeiture of the national charter. This alone would be no great business sacrifice, since banking in most states is quite as profitable under a state as under a national charter. Loss of the national charter, however, involves a loss of the right to issue bank notes and calls for the deposit of lawful money in Washington equivalent to the amount of outstanding circulation. Most national bank notes are secured by two per cent government bonds, the price of which, in the absence of the circulation privilege, would be perhaps about two-thirds of the price (somewhat above par) at which they were purchased by the banks. No considerable number of national banks could refuse to enter the system without involving themselves in a heavy immediate loss. A further provision in the act puts more immediate pressure upon the national banks in reserve cities. If

within sixty days after the passage of the act, a reserve-agent bank fails to signify acceptance of its terms, it must cease to exercise the reserve-holding right upon thirty days' notice from the Federal Reserve Board.

Many bankers bitterly condemned the compulsory features in the act while it was on its passage through Congress. This feeling was perfectly natural, but it was not very generally shared outside banking circles. Impartially considered, the act imposes no unreasonable burden upon those who have invested capital in national banks. No one fears the loss of the funds which may be subscribed to the capital stock of the Federal Reserve Banks or placed on deposit with them. If loss should be incurred, it would be primarily due to unsound banking on the part of the boards of directors of the Reserve Banks, a majority of the membership of which is to be chosen by the banks themselves. Some bankers have doubted whether the act would prove an effective measure of banking reform; but few if any have felt that results under its operation could possibly be more unsatisfactory than those under the present system; and all agree that it is a long step toward a perfected system.

II. ORGANIZATION

The new system is to be organized under the supervision and direction of the "Reserve Bank Organization Committee," consisting of the Secretary of the Treasury, the Secretary of Agriculture, and the Comptroller of the Currency. The most important function of this Committee is to determine, "with due regard to the convenience and the customary course of business," the number and area of the Federal reserve districts into which the country is to be divided, and to designate the city in each district in which a Federal Reserve

Bank is to be established. Not less than eight, nor more than twelve districts are to be created. This is a most difficult task. However carefully the initial lines of demarcation may be drawn, more or less modification is to be expected after there has been some experience with the working of the system. Changes in area of districts, and additional districts if the Organization Committee designates less than twelve, may be made at any time in the future by the Federal Reserve Board. While the rivalry of cities may tempt the Committee to start the system with a larger number, it is to be hoped that it will be found feasible to begin with no more than eight or nine districts. The problems which will confront the management of the Federal Reserve Banks are in many respects unlike those with which our bankers have had experience. A somewhat higher average of capacity in the management may more confidently be looked for if the smaller number of banks is established. Moreover, especially at the outset, mere size will contribute not a little to the prestige of the banks, and so inspire public confidence in the new system. A greater variety of occupations in large areas will lessen, tho not much, extremes of seasonal variation in demands for accommodation upon the Federal Reserve Banks. Then too, the task of the Federal Reserve Board in supervising and coördinating the system will be materially simplified, if the minimum rather than the maximum number of federal districts is decided upon.

Within sixty days after the passage of the act, in other words before February 22, 1914, national banks are required, and properly qualified state banks are invited, to signify their acceptance of the terms of the act. Within thirty days after the reserve districts have been designated, each national bank must subscribe to the capital of the Reserve Bank of its district an amount

equal to six per cent of its capital and surplus. One-sixth of this subscription is to be paid at the call of the Organization Committee, another sixth within three months, and still another within six months thereafter. The remaining half of the subscription may be called at any time by the Federal Reserve Board. All these payments are to be made in gold or in gold certificates. It will be observed that the exact time when the system will be established is uncertain. The Organization Committee is only required to designate the reserve districts as soon as is practicable; thirty days is then allowed for the banks to subscribe; and payments will begin sometime thereafter at the call of the Committee. It would hardly seem likely that payments will begin to be called before April or May; and it is hardly to be expected that the Federal Reserve Banks will be ready for business before mid-summer.

After the minimum capital (four million dollars for any Federal Reserve Bank) has been subscribed, the certificate of organization is to be executed by any five member banks designated for the purpose by the Organization Committee. The final duty of the Committee will be to supervise all arrangements for the election of the six of the nine directors of each Federal Reserve Bank, who are to be chosen by the member banks. For electoral purposes the banks of each district are to be divided into three groups — each group to “contain as nearly as may be one-third of the aggregate number of the member banks . . . and as nearly as may be banks of similar capitalization.” While the number of banks in each group will be the same, the capitalization will be very different. All the banks with a capitalization above the average in a district will certainly be in one group; those of somewhat less than average capital, in the second group; while the third group will be com-

posed of banks having a very small capitalization. Under this ingenious arrangement, it is evident that the direct influence of the banks of the large cities in selecting the directorates of the Federal Reserve Banks is limited. Local alignments are also avoided. On the other hand, this is not a grouping to which the banks have been accustomed in the past, and therefore there is some uncertainty as to whether at the outset it will be conducive to the selection of capable directorates.

Each group of banks is to choose two directors: a Class A director, who is to be an active banker representing the stockholding banks, and a Class B director, who must be actively engaged in commerce, agriculture, or some other industrial pursuit in his district. The board of directors of each member bank is to elect a district reserve elector. Candidates for the position of director of a federal reserve bank may be nominated by any member bank; but nomination is not necessary. Electors are to signify their first, second, and other choices for one director in each class on a preferential ballot.

In addition to the six directors chosen by the banks, three directors (Class C) are to be appointed by the Federal Reserve Board. Two of these must be persons of "tested banking experience," one to serve as chairman of the board of directors and district reserve agent, the other as deputy chairman and deputy reserve agent. These reserve agents are the official representatives of the Reserve Board, through whom it will exercise its powers of supervision and control over the Reserve Banks. The act contains no provision regarding the officers to whom the operation of the banks will be entrusted. Presumably each board of directors will appoint one of its members (probably one of the Class A directors) as president and manager. The term of

office of all directors is three years, but at the outset they are to be classified so that the term of one director of each of the three classes shall expire annually. The appointment of Class C directors will be the first duty of the Federal Reserve Board; inasmuch as the organization of the system can hardly be completed before the beginning of the summer, the appointment of this board could be deferred until that time. The selection of these directors for each of the eight or more Federal Reserve Banks is, however, no small task in itself; and since public confidence in the new system will largely be based at the outset upon the character of the Federal Reserve Board, its early selection is much to be desired.

The Federal Reserve Board itself is to consist of seven members; the Secretary of the Treasury and the Comptroller of the Currency *ex officio*, and five members appointed by the President of the United States by and with the consent of the Senate. Of the five appointed members, at least two must be persons experienced in banking or finance. Not more than one shall be appointed from any federal reserve district, and due regard is to be given to the different commercial, industrial and geographical divisions of the country. The term of office of the appointed members is ten years; but those first selected are to serve one for two, one for four years, and so on, so that the term of office of one member may expire every two years.

Under this arrangement a majority of the board, in the absence of death and resignation, will never be reconstituted at any one time. Each President will select two of the appointed members: one in the second year of his term of office, and one in the fourth. The Secretary of the Treasury will, of course, be a new member appointed at the beginning of each presidential

term. The term of office of the Comptroller of the Currency is for five years, so that here a variable element is introduced. It may happen that some Presidents will never appoint more than three members during their term of office. Generally, however, each President will appoint four members; but the last appointment, giving a majority on the board, will not be made until his final year of office. Lack of continuity and the possibility of a political board were much greater under the provisions for selecting the Federal Reserve Board which were in the measure at various stages while it was passing through Congress. The arrangements finally adopted would seem to make it reasonably certain that the Federal Reserve Board will be free from both of these defects.

Organization of the system will be complete ¹ with the selection of the members of the Federal Advisory Council. This Council is to consist of as many members as there are Federal Reserve districts, the board of directors of each Federal Reserve Bank selecting one member. The function and powers of the Council are purely consultative. It is to meet regularly four times each year at Washington, and at other times there or elsewhere if deemed necessary by the Council itself. It is authorized to confer directly with the Federal Reserve Board, to call for information, and make oral or written representations concerning matters within the jurisdiction of the Federal Reserve Board. It may prove to be an important part of the organization, but this does not seem probable. With a scattered membership and holding regular meetings only at long intervals, it is not to be expected that the Council will be in close touch with the Federal Reserve Board, or in a position to

¹ After the Reserve Banks have been in operation long enough to be running smoothly, not a few branches will doubtless be organized. Branches are to have boards of directors, three of the members of which are to be chosen by the Federal Reserve Board, and four by the directors of the parent Reserve Bank. Branches are to be operated under rules and regulations approved by the Federal Reserve Board.

formulate policies and urge them effectively. From individual members of the Council, the Federal Reserve Board should secure valuable information regarding conditions in different parts of the country; but the work of the Council itself as an organized body seems likely to be of a formal and perfunctory nature. The importance of the Council would doubtless have been measurably increased if the proposal had been adopted that its chairman should sit, even tho without a vote, on the Federal Reserve Board.

III. CAPITAL, EARNINGS, DEPOSITS OF THE FEDERAL RESERVE BANKS

Since the capital stock of each of the Federal Reserve Banks is to be exactly six per cent of the capital and surplus of the member banks in its district, it will always be subject to slight variations. If all national banks enter the system at the outset, the total subscribed capital of the Federal Reserve Banks will be a little more than one hundred million dollars. Subscriptions may perhaps fall somewhat below this amount, since with the exception of the reserve agent banks, no penalty attaches to failure to subscribe until twelve months after the passage of the act. Few state banking institutions will enter the system at the beginning. In many states legislation is necessary to permit them to invest in the stock of the Federal Reserve Banks, and to enable them to count balances with the Federal Reserve Banks as a part of their required reserves. It is to be presumed also, that such institutions, since they can enter at any time, will wait to see whether the system is working to the satisfaction of neighboring national banks.¹

¹ State banks and trust companies are eligible for membership, if they have a sufficient capital to entitle them to become national banks in the places where they are

There will always be wide differences between the capital and other resources of the various Federal Reserve Banks. Neither the capital nor the resources of existing banks can be made the basis for dividing the country into Federal Reserve districts. Geographical considerations will necessarily require the creation of a number of districts in sparsely settled parts of the country, in which banking resources are comparatively small. No Federal Reserve Bank may, however, be established until it has a subscribed capital stock of at least four million dollars. It would, therefore, seem to follow that the organization committee is precluded from forming any district in which six per cent of the capital and surplus of the national and state banks is less than this minimum amount. There are indeed provisions in the act designed to meet the contingency of failure by banks to subscribe in sufficient numbers to provide a minimum capital; but they would not seem to authorize the organization committee to create districts in which resort to these provisions would be inevitable.¹

Whether the capital of the Federal Reserve Banks is large or small is a matter of no great importance. Subscriptions to capital provide a comparatively small part of the resources of banks. The capital is an indication that those conducting a bank have something at stake, and is also a margin of safety against loss to depositors. These Federal Reserve Banks are, however, to accept deposits from banks only, and are ordinarily to confine their dealings to the banks. In these

situated. On becoming member banks, they must comply with the provisions of the national banking law regarding reserves, examinations (the state examinations may be accepted), and various other general provisions of the national banking law.

¹ In case subscriptions by the banks of a district are inadequate, stock is to be offered to the general public; and if the response of the public is inadequate, the stock is to be taken by the government of the United States. Neither privately owned nor government stock is entitled to voting power.

circumstances, there is practically no difference between the funds which the Federal Reserve Banks will secure from member banks in payment of subscriptions to capital stock, and the funds which will be deposited with them by member banks. The depositors are the stockholders and, therefore, there is no separate interest to be protected by a margin of safety.

Shareholders in the Reserve Banks are entitled to a cumulative dividend of six per cent. A limited dividend is obviously wise, since it tends to eliminate the profit-making motive in the management. Whether all the Federal Reserve Banks will regularly earn the six per cent dividend is, of course, not certain; but it seems highly probable, since the danger of serious losses is remote, and interest will presumably not be paid to the member banks on their balances. All earnings in excess of the dividend are to be paid to the government of the United States as a franchise tax; but half of these surplus earnings are to be paid into a surplus fund until it has become forty per cent of the capital stock. Whatever is received by the government from the Federal Reserve Banks is to be used at the discretion of the Secretary of the Treasury, either to increase the gold reserve against United States notes or for the reduction of the interest-bearing debt.

The Federal Reserve Banks will doubtless secure very large resources through the deposit with them of the moneys held in the general fund of the Treasury of the United States, altho no power over the disposition which shall be made of these funds is granted either to the Federal Reserve Banks or to the Federal Reserve Board. Entire discretion remains with the Secretary of the Treasury. He may continue the independent treasury system without change; he may continue to deposit funds with member banks, just as hitherto he

has placed deposits with national banks; and finally he may deposit with any or all of the Federal Reserve Banks, using them as government fiscal agencies. The responsibility of the Secretary of the Treasury is in no way changed. Almost certainly in practice, however, the bulk of the free funds of the government will be placed with the Federal Reserve Banks, and doubtless the opinion of the Federal Reserve Board will determine the distribution of these funds between the various banks.

The lion's share of the cash resources of the Federal Reserve Banks will come from the reserves and working balances deposited with them by member banks. Under the terms of the act, part of the required reserves of member banks *must* be placed with Federal Reserve Banks. This is a novelty in central banking legislation, but is based upon sound principle, and is especially to be commended for this country where, on account of the absence of branch banking, the number of banks to be served by the regional banks will be very great. It makes certain some increase in the resources of the Federal Reserve Banks, along with the expansion of the credit liabilities of the member banks. It also lessens somewhat the danger of unnecessary withdrawals of funds from the Reserve Banks in emergencies.

Reserve requirements of the national banking law are radically changed. In addition to the requirement that a part of the reserve of the banks be kept with the Federal Reserve Banks, the reserve ratio is reduced for all classes of banks; the practice of keeping a part of the reserve of country and reserve city banks with reserve agents is to be discontinued; and a distinction for reserve purposes is made between time and demand deposits. Some of these changes become effective as soon as the new system is established; others are to be

made in a succession of steps and completed three years after the passage of the act.

Time deposits are to comprise deposits payable after thirty days, and are to include certificates of deposit and savings accounts subject to thirty days' notice. A reserve of five per cent is required against these deposits, and no distinction is made between country and city banks. This low reserve requirement will certainly lead the banks to encourage the conversion of demand obligations into time obligations. A relatively large part of the deposits of banks in most European countries is payable at notice. It is obviously an arrangement which shields the banks somewhat from the effects of sudden waves of distrust.

Against demand deposits the ratio of reserves is also to be reduced at once; but the existing classification of banks is to be retained. The required ratio for country banks is reduced from fifteen to twelve per cent, for reserve city banks, from twenty-five to fifteen per cent, and for central reserve city banks from twenty-five to eighteen per cent. A provision in the bill excluding from reserves the five per cent fund held in Washington against outstanding circulation is a slight offset to this reduction in reserve ratios.

As regards the banks in central reserve cities, the initial arrangement regarding the disposition to be made of their reserve is also the final arrangement. They must hold $\frac{6}{18}$ of their reserve in vault, $\frac{7}{18}$ in their Federal Reserve Bank, and the remaining $\frac{5}{18}$ either in vault or with their Federal Reserve Bank. Other banks are allowed a period of transition. Reserve city banks for three years must hold $\frac{6}{15}$ of their reserve in vault, thereafter $\frac{5}{15}$; for twelve months they must keep with their Federal Reserve Bank $\frac{3}{15}$, adding an additional $\frac{1}{15}$ every six months; so that at the end of

two years they will have a deposit of 6/15. During the three year period the remainder of the reserve may be deposited with reserve agent banks in a central reserve city, or by what would seem to be an inadvertent extension of existing practice with those in reserve cities; but thereafter it must be either in vault or with a Federal Reserve Bank. Country banks must hold in vault 5/12 of their reserve for three years, thereafter 4/12; for twelve months must deposit with their Federal Reserve Bank 2/12, and an additional 1/12 every six months until 5/12 are deposited at the end of two years. The remainder of the reserve may be kept for three years with reserve agent banks, but at the end of that period must be either in vault or in a Federal Reserve Bank.

Whether these changes in reserves, together with payments by the banks of subscriptions to the capital stock of the Reserve Banks, will make necessary any considerable amount of loan contraction, cannot be precisely determined. If numbers of state banking institutions enter the system at the beginning, some strain may be occasioned, since, altho these requirements are less than those to which the national banks have been subject, they exceed those imposed upon banks by the law of many of the states. In order to enable the banks to avoid contraction, the act contains a provision under which one-half of each instalment of reserve to be placed in reserve banks may be received in the form of the kinds of commercial bills of exchange which the reserve banks may purchase in the open market. It is, however, most unlikely that the banks will be able to make much use of this arrangement, because of the scanty amount of such paper available.¹

¹ See p. 247 below.

IV. CLEARING FUNCTIONS OF THE FEDERAL RESERVE BANKS

It is highly probable that deposits with the Federal Reserve Banks will considerably exceed the amount of reserves which member banks must place with them. Each Reserve Bank is required to receive at par from member banks checks and drafts drawn on any other member bank in its own district. The Reserve Banks are almost certain to become the regular channel through which the banks in any district will collect checks drawn on member banks situated in other places within the same district.¹ The Reserve Banks will presumably organize arrangements similar to those which a few clearing houses, notably those in Boston and in Kansas City, have devised for handling country checks. Much time, very likely years, will be required to work out the details of this system of collections in all of the Federal districts. Many branches will be needed, especially in the districts of large area. Much persuasion and perhaps some pressure will be necessary to induce the banks everywhere to give up present methods of conducting this business. In one respect, the system will be a vast improvement over even the best of the arrangements which have been set up by clearing houses: settlements between the banks will be made by transfers on the books of the Federal Reserve Banks, greatly economizing the use of cash. The banks will certainly find that deposit credits rather than money or notes will be serviceable for most of the

¹ After the city banks lose the reserve balances of country banks, it is doubtful whether they can with profit to themselves continue present collection arrangements. The collection of time items, and demand items on banks which do not enter the system, will require the continuance of many correspondent relationships between banks. Possibly more of this business may be conducted on a commission basis in future.

requirements which will cause them to resort to the Reserve Banks for accommodation.

Similar arrangements may be made through the Federal Reserve Banks for collecting checks drawn on a member bank in one district and deposited with a member bank in another district, but the act does not seem to make this obligatory. A Reserve Bank must receive at par checks and drafts drawn on member banks in its own district if they are deposited with it by other Reserve Banks; but the Reserve Banks are not required to perform this service for member banks. This is a matter which is left to the discretion of the Federal Reserve Board, which is also empowered to clear balances for or to delegate this function to the Reserve Banks. The charges which may be imposed by the Reserve Banks in connection with the transfer of funds and for collections are also to be determined by the Federal Board. Presumably it will be many years before the Reserve Banks will be in a position to undertake the gigantic task of collecting all checks wherever deposited throughout the entire country.

A far-reaching change in the methods of making payments between different parts of the country is certain to be made almost as soon as the new system is established. Checks and drafts drawn by member banks on their own Reserve Bank must be received at par by all other Reserve Banks. Consequently every city in which there is a Reserve Bank will become a par point for the entire country. In the past, New York exchange has been superior to exchange on any other city as a medium for making remittances between different parts of the country. In future exchange on any city which has a Reserve Bank and doubtless also on those having a branch of a Reserve Bank will be equally good. Some of the probable consequences of

this important change may be indicated. Loans by banks in one section to firms or banks in other sections of the country will be greatly facilitated. A slight advance in the rate of discount by one Reserve Bank above that of another may be expected to relieve it from strain, because funds of outside banks will readily flow into its territory. The practice of making commercial paper payable in New York will lose some of its present advantages; consequently, the direct strain on New York will be less considerable than it has been in the past. Finally, it will make comparatively little difference to any member bank whether it belongs to a district containing the cities to which the business of its depositors makes constant remittances necessary.

Each of these various clearing arrangements to be undertaken by the Reserve Banks will obviously make necessary the maintenance of free working balances by member banks with their Reserve Banks. Reserve balances may indeed be used. Quite properly the act contains a specific provision authorizing the use of reserve balances; but doubtless only their exceptional use will be allowed. For exchange purposes in the past, banks have been obliged to maintain large free balances scattered about among banks in many different places. By concentrating much of this business with the Reserve Banks, the average amount of free balances which the banks will require will be materially reduced. Herein, quite as much as in lower reserve requirements, the banks will find that the new legislation makes possible a more economical use of their resources.

V. FEDERAL RESERVE NOTES AND NATIONAL BANK NOTES

The power to issue notes is a useful but not indispensable resource for institutions having the responsibilities which are placed upon the Federal Reserve Banks. The issue of notes by a central bank enables it to supply domestic requirements for currency without reducing its holdings of reserve money. In the absence of the right of issue, it would only be necessary to accumulate in ordinary times a somewhat greater amount of reserve money, to provide for seasonal and emergency needs. General public confidence in the Federal Reserve Banks would, however, be far less secure if they were not empowered to issue notes. This is because of the exaggerated importance almost universally attached to the right of note issue, even in countries in which the check has become a universal medium of payment.

The particular provisions in the act regarding the issue of notes are extremely complicated, and are in some respects quite without precedent. The notes for which provision was made in the bill of the Monetary Commission were to be bank notes pure and simple, subject to a variety of restrictions designed to keep the total amount issued within safe limits. The notes which are to be issued under the provisions of the act are certainly quite as well safeguarded in this respect. In addition, the notes are made obligations of the government of the United States, which also undertakes to redeem them at Washington. The obligation of the government is in addition to and does not take the place of any banking safeguard. It is designed to meet the desires of the very large number of people throughout the country who believe that the issue of

money is a government function. To many bankers and others familiar with our past financial history, this provision in the bill was most distasteful. Their opposition, tho natural, was, however, neither very practical nor reasonable. It was based very largely upon the fear that the government obligation on the notes would prove an entering wedge for an issue of fiat money at some future time. But paper money cannot be issued under the terms of the act for the purpose of meeting government expenditures. Additional legislation would be necessary, and the possibility of such legislation is not appreciably increased by making the notes which are to be issued by the Reserve Banks an obligation of the government. On the other hand, this provision won many friends for this important piece of banking legislation; it allayed opposition which would always have been a serious menace to the permanence of the new system.

The quantity of the new notes which may be issued is wholly within the control of the Federal Reserve Board; but the initiative in taking out circulation rests entirely with the boards of directors of the Reserve Banks. Applications for notes may be made at any time by a Reserve Bank to its district reserve agent, the member of its board of directors who is the medium of communication between the bank and the Board. Rediscounted commercial loans equal in amount to the notes applied for must be deposited with the agent, and a reserve in gold of forty per cent must be maintained. (A reserve of thirty-five per cent in gold or lawful money is required against deposits.) The Board may grant in whole or in part, or reject entirely, applications for notes, and may also impose such interest charge upon the notes as it may deem advisable. The notes are to be a prior lien on the assets of the issu-

ing banks, and there is, therefore, no possibility of loss to note holders, nor any to the government on account of the obligation which it assumes.

Such part of the forty per cent gold reserve against the notes as may be deemed advisable by the Secretary of the Treasury, but in no case less than five per cent, must be deposited in the Treasury of the United States for the redemption of the notes in Washington. Each Reserve Bank is required to redeem not only its own notes but also those of the other Reserve Banks either in gold or in lawful money; redemption in Washington is in gold alone. In practice it is certain that Reserve Banks will redeem the notes in gold over the counter; and it is also certain that slight use will be made of the redemption machinery at Washington. Member banks will certainly deposit the notes with their own Reserve Banks, which are required to accept the notes of other banks at par. The Reserve Banks, in turn, are required under the law to return for redemption the notes issued by other Reserve Banks. Redemption at Washington has apparently been provided because national bank notes are redeemed there in large volume every year; a result of the circumstance that the present number of issuing banks is so large as to make counter redemption much more costly.

Various provisions in the act are evidently designed to keep the issue of notes within safe limits; but not much reliance should be placed upon them. Reserve Banks may not, under penalty of a prohibitive tax of ten per cent, pay out the notes of other Reserve Banks. If these banks, like the Scotch banks, were working in the same territory, regular redemption would check over-issue on the part of any one of them. But under a system of regional banks, each with its own territory, there will be only a very irregular relation between the

amount of notes put out by any one and the amount which will be received by the others. Moreover, it should be borne in mind that regular redemption is no check whatever upon general expansion, either in the form of notes or of deposits, when all banks are expanding credit at the same time.

Not much effect also in checking over-issue is to be looked for from those provisions in the act which require a forty per cent reserve in gold and impose a graduated tax upon reserve deficiencies. A considerable part of the total reserves of the Reserve Banks is certain to be in gold; and deposit liabilities are certain to be vastly greater than those for notes in circulation. The circumstances are hardly conceivable in which a Reserve Bank would not have an amount of gold in its entire reserve ample to provide a gold reserve for such notes as it might issue. The special tax on note reserve deficiency can therefore be readily evaded by shifting the deficiency to the reserve against deposits. Deficient reserves are only allowed when reserve requirements are suspended by the Federal Reserve Board. The Board is to impose a graduated tax on all deficiencies except in the note reserve. On note reserve deficiencies, the tax imposed in the law is to be added to the rate of discount of the reserve banks. The arrangement would seem to be a most unworkable one, since there is no means of knowing to what extent a borrowing bank will have occasion to use the proceeds of its loan in the form of notes. Fortunately this provision of the act is never likely to become operative.

After all, for proper use of the right of issue under the act the main reliance must and should be on wise and experienced management for the Reserve Banks, and above all on a conservative Federal Reserve Board. Restrictions which would make over-issue impossible

would also deprive the right of issue of all usefulness as a means of extending credit. Moreover, the danger of the over-expansion of credit in the form of deposits is vastly greater than it is in the form of bank notes in any country in which deposit credits have become the more important credit medium.

One of the most perplexing questions that presented itself in framing the act was the disposition to be made of the national bank notes and the two per cent government bonds which secure very nearly all of them. When the measure reached the Senate, it contained provisions which contemplated the gradual substitution of Federal Reserve notes for the national bank notes. But when it was pointed out that this would require the Reserve Banks regularly to rediscount at least seven hundred million dollars of commercial paper, in order to support the existing volume of currency, it was felt that some other arrangement must be made. A plan to unify all the varieties of paper money now in circulation, with the exception of the silver certificate, by the issue of an equal amount of United States notes, backed by an ample gold reserve, found influential support; but it was wisely decided to present this in a separate measure. The particular provisions regarding the national bank notes and the bonds contained in the act should be regarded, therefore, as a temporary arrangement pending future legislation.

In order to avoid the contraction of the currency which would follow the refusal of many national banks to enter the system, each Reserve Bank is authorized to purchase bonds and take out circulation similar in all respects to the notes issued by the national banks. After the end of a period of two years, additional bonds may be purchased, but only from member banks, and at the discretion of the Federal Reserve Board. Member

banks desiring to retire circulation and dispose of their bonds, may make application to the Board, which may require the Reserve Banks to purchase them. No more than twenty-five million dollars of bonds may be purchased in any one year, and the amount purchased is to be distributed among the various Reserve Banks in proportion to their capital stock. Bonds thus purchased may be used as a basis for additional national bank notes by the Reserve Banks, or they may be converted into three per cent government obligations, — one-half into thirty-year three per cent bonds, and one-half into one-year three per cent notes both issues without the circulation privilege. In taking the one-year notes, a Reserve Bank enters into an obligation to purchase an equal amount at each successive maturity for thirty years. The purpose of the notes is to provide the Reserve Banks with a readily marketable asset, the sale of which abroad may prove serviceable in periods of strain, and the domestic sale of which will enable the Reserve Banks to make their discount rates effective in the money market. Government short-term obligations are used for these purposes by many of the European central banks.

The existing volume of national bank notes will not be reduced under the terms of the act, except in so far as the Reserve Banks convert two per cent bonds into three per cent bonds or notes. There may even be some slight increase in the total of national bank notes in circulation, since banks may use for this purpose the small quantity of bonds not already absorbed in this way. Little concern, however, need be felt because the national bank notes are not to be retired. Present requirements for money to be used outside the banks are sufficient to absorb all the notes at present; and with the growth in population a somewhat greater quantity could be absorbed in future.

VI. LENDING OPERATIONS OF THE FEDERAL RESERVE BANKS

The normal lending operations of the Federal Reserve Banks are limited to the rediscounting for member banks of commercial loans maturing within ninety days. Commercial loans are generally defined in the act as "notes, drafts and bills of exchange arising out of actual commercial transactions; that is, notes, drafts and bills of exchange issued or drawn for agricultural, industrial or commercial purposes, or the proceeds of which have been used or are to be used for such purposes." The Federal Reserve Board is authorized to define more precisely the nature and character of eligible paper. To make assurance doubly sure, the rediscount of loans secured by stocks and bonds is specifically prohibited. The act also provides that six months' maturities of paper drawn and used for agricultural purposes or based on live stock may be rediscounted.

In confining rediscounts to commercial loans, the act is more stringent than that governing the operations of central banks in Europe. In practice, however, the bulk of the loans of these institutions are in connection with commercial transactions. While this restriction may in some particular emergency hamper the Reserve Banks in giving assistance to some threatened bank, it is upon the whole amply justifiable. Under our banking system in the past the collateral loan has enjoyed a prestige which it is hoped will be transferred to commercial loans. Exclusion of collateral loans from rediscount will certainly contribute much to bring this about. The restriction also gives the public greater confidence that the resources of the Reserve Banks will be generally available throughout the entire country.

One of the reasons which has been advanced for confining rediscounts to commercial loans is based upon certain misconceptions of the true nature of commercial paper, — misconceptions which, if adopted by the management of the Reserve Banks in formulating their policy, may have disastrous consequences. It has been contended on all sides during the last few years that commercial paper was from its very nature liquid; and further, that credit could therefore safely be granted to an extent limited only by the amount of such paper. Both of these contentions are hopelessly fallacious. In an emergency, no kind of loan is liquid to any considerable extent. Business cannot suddenly be deprived of the amount of credit to which it has become adjusted. It is, indeed, often said that loans based upon any commodity entering into general consumption can be quickly liquidated. This can be done as regards any particular loan; but supplies for the immediate and distant future must be in process of production and they will require a new batch of loans. The view that credit can be safely granted to the full extent of merchandise in process of distribution and even in process of manufacture, is equally fallacious. Credit affects price. Liberal discounts may cause speculative advances in commodity prices, stimulating excessive prices by wholesalers, jobbers, and retailers, as well as by speculative holders pure and simple. There is no mechanical or statistical test for the amount of credit which may be safely granted, whether the loans be commercial or collateral. Over-expansion is possible by both operations.

Commercial loans will become the most liquid asset that member banks can hold, simply because they can be rediscounted with the Reserve Banks. A smaller amount of bank funds will be employed in the call loan

market. But whatever amount remains available for that use will be subject to far less seasonal fluctuation both in volume and in rates. The retention of fixed reserve ratios, even tho they may be suspended by the Federal Reserve Board, will probably lead many city banks to use the call loan market to a moderate extent, since it will enable them to avoid the necessity of resorting to the Reserve Banks for rediscounts whenever reserves momentarily drop below legal requirements. A somewhat larger proportion of time loans will doubtless be used in connection with stock exchange dealings; but the available supply of call money will presumably be sufficient to permit the continuance of the present American practice of daily delivery of securities.

At the outset, on account of the widespread prejudice among bankers against rediscounting, the demand for accommodation from the Reserve Banks may not be large; but this prejudice will surely die away in time, and most if not all of the Reserve Banks will suffer from no lack of regular business, except in periods of business depression. Member banks in those parts of the country in which the supply of credit is inadequate for local requirements will lend more closely, while banks which regularly have more funds than can be thus employed will purchase more commercial paper from note brokers and perhaps rediscount for banks in those parts of the country in which rates are normally high.

Aside from the government account, member banks are to provide the funds for the reserve banking system. Competition with member banks would therefore and justly occasion serious dissatisfaction. Managed by boards of directors a majority of the membership of which is to be selected by the member banks, there would seem to be little danger of

serious competition from the Reserve Banks. Nevertheless the act places such restrictions upon dealings by the Reserve Banks with the general public that little or no competition will be possible.

The Reserve Banks are permitted to engage in three kinds of open market operations: (1) dealings in Government securities, and also in obligations of the states and local bodies, maturing within six months and issued in anticipation of taxes; (2) dealings in foreign exchange; and (3) dealings in domestic bills of exchange.

The purchase and sale of government bonds and notes and state and local short-term obligations require no detailed consideration. In periods of inactive demand for rediscounts, investments of this kind will doubtless be made by the Reserve Banks in order to employ surplus funds.

The right to engage in foreign exchange dealings will also be similarly useful, surplus funds being invested in foreign bills. Moreover, if any of the Reserve Banks find that their resources are regularly in excess of domestic requirements, they may be used to facilitate the financing of the foreign trade of the country with domestic capital. It is also very generally believed that the power to engage in foreign exchange operations may be so used that it will be possible to rely upon securing abundant foreign funds in periods of financial strain. This is most unlikely. It is entirely possible for a small country to rely upon holdings of foreign bills as a means of influencing the foreign exchanges, and even for such supplies of gold as may be needed on occasions when confidence is threatened. But the banks of a large country must rely mainly upon domestic resources, since the amount of cash and credit needed in an emergency is too great to be secured from foreign money markets. It should be the policy

of the Reserve Banks to maintain themselves in a condition of such abundant strength as to be wholly independent of foreign assistance. Moreover if they maintain strong reserves in ordinary times, they will not be disturbed on account of gold exports. Gold exports amounting to fifty, or even a hundred million dollars should not be made the occasion for obstructive measures such as are adopted by many of the European central banks. Measures of this kind are generally an indication that the credit structure rests upon an inadequate foundation. New York has been a free gold market in the past, and even under our imperfect banking system, there has always been a sufficient amount of gold for every banking purpose. Moreover, restrictions placed upon gold movements can have but temporary effects; in the long run the distribution of gold among the various commercial countries is determined by fundamental influences which override all such artificial barriers.

The act permits only one kind of banking business between Reserve Banks and the general public. They are allowed to buy and sell to or from individuals, firms, and corporations, as well as domestic and foreign banks, bills of exchange of the kinds which are made eligible for rediscount. The purpose of this provision in the act is to enable the Reserve Banks to secure some employment for their funds when the demand for rediscounts slackens, and to develop a broad discount market. A broad discount market may be developed under the new banking arrangements; but the prediction is ventured that this provision in the act will not contribute to its development and that in general it will be barren of results. It should be observed that the promissory note, the usual borrowing instrument in this country, altho it may be used for rediscounting

purposes, cannot be bought and sold in the open market by the Reserve Banks. Aside from foreign trade, the mercantile bill of exchange, payable at a future date, has largely fallen into disuse in most advanced commercial countries. More and more cash payments are either insisted upon, or are favored by the offer of trade discounts for cash considerably greater than bank discounts. When a purchaser pays cash, obviously a mercantile time bill of exchange cannot come into existence. In European countries, many purchasers who pay at once often draw a bill of exchange on their own bank and, after it has been accepted, discount it in the open market. In this country banks are to be allowed under the act to accept only bills drawn in connection with merchandise exports and imports. Material will, therefore, be lacking for a broad discount market, if its development is dependent upon open market operations by the Reserve Banks.

Fortunately the development of a broad discount market does not require open market operations on their part. A broad discount market is one to which many borrowers resort with full assurance that they will find many lenders. Even under past banking arrangements, many borrowers and lenders have been brought together through note brokers; but owing to the lack of an available supply of cash and credit with which to meet emergencies, this market has been subject to violent perturbations, and at times dealings have been almost entirely discontinued. In the future a solvent borrower will feel more certain that his paper can always be marketed by his note broker; and banks will purchase more largely, since they will prefer to use such paper for rediscounting purposes rather than that of their own regular customers.

VII. ADDITIONAL POWERS OF NATIONAL BANKS

Nearly half of the national banks have established savings departments and now hold more than eight hundred millions of savings deposits. This has been a recent development, and one for which there was no specific authority in the national banking law; but under the liberal interpretation of that law by the Comptroller of the Currency in recent years, it has been permitted because it was not forbidden. Many have doubted, however, whether the banks could enforce the thirty and sixty days' notice of the withdrawal of deposits which, following the practice of regular savings banks, appeared on the pass-books issued to depositors. This uncertainty has been removed by implication by the new act, which includes in its definition of time deposits, savings accounts subject to at least thirty days' notice. It is of course a great advantage to the national banks, that in the employment of these deposits they are subject to much less restriction than is imposed upon savings banks in many of the states.

Subject to the permission of the Federal Reserve Board, and when not in contravention of state laws, national banks may act as trustees, executors, administrators, and registrars of stocks and bonds. Many banks will find this a useful extension of their powers. If trust companies may properly engage in banking, there can be no good reason why banks should not undertake trust functions. The department store principle in banking has made rapid headway in most countries in recent years. Under proper supervision every kind of reasonable and safe financial business can be handled by a single institution safely and in a way which is convenient for the business community. In some states legislation may be necessary to permit

national banks to undertake trust functions. In Massachusetts, it seems to be the opinion among lawyers that no legislation is required.

Inability to lend on mortgage security has been the most serious disadvantage experienced by country national banks in competition with state institutions. Land has been by far the best local security available over large parts of the country. Rural bankers have, in fact, taken it into account in making loans and by various devices have succeeded in making it the security for many of the loans which they have granted. Under the Federal Reserve Act all banks, except those in central reserve cities, may lend for periods not exceeding five years twenty-five per cent of their capital and surplus, or one-third of their time deposits, on the security of unencumbered and improved farm land to fifty per cent of its market value.

Two changes are made in the law for the purpose of facilitating financial business with foreign countries. National banks having a capital of at least one million dollars may establish foreign branches, subject to the approval of the Federal Reserve Board, and to such regulations as it may formulate for conducting this business. Banks may also accept bills of exchange maturing within six months drawn in connection with exports and imports of merchandise. These are desirable changes in the law. It is not, however, probable that many foreign branches will be established in the near future, and it is most unlikely that the American acceptance will make rapid headway in foreign markets.

The scope of the following provision in the act is uncertain. "Other than the usual salary or director's fee paid to any officer, director, or employee of a member bank, and other than a reasonable fee paid by said

bank to such officer, director, or employee for services rendered to such bank, no officer, director, employee, or attorney of a member bank shall be a beneficiary of, or receive, directly or indirectly, any fee, commission, gift, or other consideration for or in connection with any transaction or business of the bank." This prohibition obviously covers payments to bank directors and officers in return for aid in securing accommodation from the banks. It may be held that all purchases by a bank of commercial paper from a firm of note brokers, or of securities from a banking house, are forbidden if any of the partners of such firms are on its board of directors. In this event, a few banks would lose valuable directors; but the question of the wisdom of such exclusion is too complex to be given consideration in this paper.¹

VIII. SUPERVISORY FUNCTIONS OF THE FEDERAL RESERVE BOARD

A variety of functions of a supervisory or administrative nature are to be exercised by the Federal Reserve Board. It is to formulate detailed regulations regarding various matters concerning which only general provisions are contained in the act. Among important matters regarding which the Board is to formulate regulations may be mentioned: rules for conducting branch offices; the regulation of state banks which become member banks; rules defining precisely commercial loans eligible for rediscount; and the regulations for the operation of foreign branches. The board

¹ The inability of the Pujo money trust committee to secure desired information from the banks evidently occasioned the following clause: "No bank shall be subject to any visitatorial powers other than such as are authorized by law, or vested in the courts of justice, or such as shall be or shall have been exercised or directed by Congress, or by either House thereof, or by any committee of Congress of either House duly authorized."

is to exercise many supervisory functions over the Reserve Banks which are similar to those which have long been exercised by the Comptroller of the Currency over the national banks. Examination of the Reserve Banks is under its direction. There must be one examination each year, and additional examinations must be ordered upon the application of ten member banks.¹ The Board is also to publish once each week, a statement showing the condition of each Reserve Bank, and a consolidated statement for all these institutions. It is also given a number of important powers to be exercised at its discretion. It may suspend reserve requirements for a period of thirty days, and renew such suspension for successive fifteen day periods. For violations of law, it may suspend the operation of a Reserve Bank, and administer or liquidate it. The Board may also reclassify cities as reserve or central reserve cities, or terminate their designation as such.

The method of banking reform which has now been adopted, necessarily involves placing somewhere enormous power to expand credit. This power cannot be surrounded by sufficient safeguards to prevent all possibility of its misuse, because in so doing, its wise use would be quite as seriously interfered with. Competent management is therefore absolutely essential if satisfactory results are to follow the passage of the Federal Reserve Act. In the operation of the new system, the boards of directors of the Reserve Banks may prove the most important part of the organization; or that place may be occupied by the Federal Reserve Board. The boards of directors will exercise all the ordinary powers of such boards, except in so far as

¹ The law regarding the examination of national banks is recast. The only important changes are that hereafter all examiners are to be paid salaries, and that the Federal Reserve Banks are empowered to conduct special examinations of member banks.

they are subject to control by the Board. All the loans of the Reserve Banks are to be made by the boards of those banks. In this matter, the Board has no power whatever, except that it may require, on the affirmative vote of five members, one Reserve Bank to rediscount paper for others. Here is a power that seems to be designed merely to prevent any working at cross purposes among the Reserve Banks. Few or no occasions for its use will present themselves if all the Reserve Banks are well managed by their own boards. All rates of discount are to be fixed in the first instance by the boards, subject to review and determination by the Federal Board. Here again the decision of the Reserve Bank boards is altogether unlikely to be overruled if these banks are skilfully managed.

The power of the Federal Reserve Board to restrain the Reserve Banks is vastly greater than its power to force them to take positive action which might lead to the inflation of credit. This was clearly the purpose in view in giving the Board the more important of its many powers. It may, for example, reject applications of Reserve Banks for notes, but this will not endanger assets, it will simply lessen power to expand operations. Its power over the discount rates of Reserve Banks will obviously be more effective when used to advance rates which it deems too low than it will be if used to enforce a rate lower than the management approves. The directors of the Reserve Bank would still determine the amount of accommodation which it might safely grant to member banks at the enforced low rate. Officers and directors of Reserve Banks may be removed at any time by the Federal Board, which is merely required to communicate its reasons for removal in writing; but the right of member banks to choose successors will still remain.

While it is impossible to make any prediction as to the relative place which the Reserve Bank directors and the Federal Board will hold, it is evident that, in the absence of harmonious coöperation, the system will not work smoothly, even if it can be made to work at all. If all the Reserve Banks and the Federal Board adopt a wise and conservative policy, the system will surely work well. If the Reserve Banks alone are conservative, the system may work well but with much friction. If the Federal Board alone is conservative, it may force good results from the system. On the other hand, if some of the Reserve Banks and the Federal Board are reckless, the system will probably break down; and if all the Reserve Banks and the Federal Board adopt a reckless policy, the results will be disastrous.

Both the directors of Reserve Banks, and the Federal Board will be confronted with numerous problems, many novel and some intricate. The possibilities of the new system cannot be foreseen, and the extent and nature of the responsibilities resting upon the Reserve Banks cannot be determined beforehand. At the most, only some of the broader lines of policy and some of the more obvious danger signals can be indicated in advance of experience. This is a task which will be attempted in a subsequent paper.

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THE BRITISH SUPER-TAX AND THE DISTRIBUTION OF INCOME

SUMMARY

Earlier estimates of income-distribution, based on imperfect statistics, 256. — Additional information since 1907-09, 257. — Comparison of new data with Pareto's law, 258. — Considerable discontinuity; possible explanation, 260. — Notes: I, Abatements on moderate incomes (up to £700), 262; II, Super-tax yield, 263; III, Pareto's law, 264; IV, Death duty statistics, 266; V, Statistics of earned income, 267.

IN 1906 a Committee of the House of Commons examined the method of collection and the statistics of the Income Tax with a view to the possibility of differentiation between earned and unearned income and to the yield of a super-tax on high incomes. In 1909 a super-tax was imposed of 6*d.* per £ on the excess over £3000 of personal incomes exceeding £5000; in 1907 the rate on earned incomes, where total personal income was less than £2000, was reduced to 9*d.*, the ordinary rate being then 1 shilling. In 1909, when the rate on unearned income was raised to 1*s.* 2*d.*, that on the earned incomes of those whose total income was over £2000 and not over £3000 was fixed at 1 shilling.

The evidence given to the Committee¹ proved that the statistics were inadequate for showing what was the total number of income-tax payers, what were the numbers in any grades of income, and what part of income resulted from ownership, what from earnings. It will be interesting to examine after the lapse of seven years, whether any important new light has been thrown on these questions.

¹ House of Commons Paper. No. 365 of 1906.

The reasons for the imperfection of the statistics were as follows. A very great part of the Income Tax is collected "at the source," from interests, dividends, and profits before they are distributed and in a large group of cases from salaries before they are paid. In addition to the income so dealt with, assessments are made on individuals in respect of any other income they are known to receive, and returns are demanded from persons and firms for a statement of any income not already taxed that accrues to them. In general, the Tax Commissioners know only aggregate incomes and numbers of assessments, and not the income of individuals who may each be the subject of several assessments. The Commissioners have never published (it is believed from reasons of expense and administrative difficulty) any special information as to those persons, who for one reason or another fill in returns of total income. The incomes are tabulated according to their sources in the Commissioners' reports, it is not possible to distinguish earned from unearned income, since an enormous total is composed of profits from firms where the receipts from use of capital cannot be distinguished from those resulting from personal activities. Further, income from a man's own capital in his own business is regarded as earned. The only definite numbers of persons known were of those who had successfully claimed abatements of tax on the ground that their income was not more than £700; in Note I below these numbers are discussed and it is shown that they were considerably below the numbers who had such incomes.

The statistics of total income and of such fragmentary totals as were available were examined, by various witnesses before the committee, in the light of two other groups of information. The Inhabited House duty

leads to important tables of numbers of houses assessed as of various annual values; and, if the assumption could be made that in general one and only one income-tax payer was to be found at one house, and if any working rule could be made as to the relation of house rent to incomes of various amounts, these tables would show the numbers of incomes at various grades. The "Death duties" lead to detailed tables as to the value of estates left year by year; and, if the ratios of the number of estates (graded by value) existing to one passing, and if the rate of interest on the capital were known, again the distribution of unearned income would be known. Very great difficulty was found in framing the necessary hypotheses and harmonizing the different tables. From them the aggregate of income over £5000 per annum was variously estimated by Sir Henry Primrose as £121,000,000, by Mr. Chiozza Money as £181,000,000, by Mr. T. A. Cogan as £148,000,000, and by the present writer as £200,000,000. The first and last named especially laid emphasis on the extreme uncertainty of their estimates.

In spite of the additional powers of obtaining returns from individuals now exercised by the Commissioners, it still remains true that the total number of income-tax payers is not known, and, except for detailed returns of the super-tax (Note II below), nothing new has been published except the fragments given in Note V. But it has happened that the numbers of abatements claimed on incomes less than £700 have risen, as the change of rates of taxation have offered greater inducements, and as the knowledge of the right to make such claims has spread; so that, as shown in Notes I and III, it is now possible to make an estimate for such incomes with greater certainty. The rest of this paper is based on the assumption that we have adequate knowledge of the

number and amounts of income liable to tax (with or without abatement) between £160 and £700, and over £5000. As regards the latter it is probable that very few persons can receive £5000 from earnings and not very many from interests,¹ etc., without the special commissioners (whose information from the various sources is extensive) suspecting it and requiring them to make a return of their total income.

We have then the following estimates for the fiscal year 1911-12.² Number of incomes between £160 and £700 was 880,000 with details for subdivisions. Number of incomes above £5000 was 11,800 and its amount £149,000,000, with details for subdivisions. Total personal income was £810,000,000.³

The clearest way to compare these data is by Pareto's law of income distribution, given in Note III. Whatever may be the conclusion as to the general applicability of this law, there can be no doubt that it is of great service in estimating details when gross numbers are known, for interpolating, and for interpretation. In words the law may be put that if the logarithms of the numbers of persons in receipt of incomes *above* a given amount are plotted against the logarithms of the amounts, the points obtained will lie in a straight line. A simple mathematical deduction is that if the logarithms of the numbers of persons whose incomes are

¹ If a man lives in a small house or a flat and receives his income in small amounts from widely distributed sources, it may take a long time for his liability to super-tax to become known.

² The amounts included in income taxable in a particular fiscal year, April 1st to March 31st, are in some cases income received in that year, in others the averages of incomes received the previous 3 or 5 years, with many other detailed variations. The effect is that the amount stated for the year 1911-12 corresponds to the actual total of 1910 or 1909.

³ Taxable income, after exemptions and allowances, but before abatements were made, was £886,500,000. But part of this, estimated as about £60,000,000 by Sir H. Primrose in 1906, is not personal income of persons in the United Kingdom, but belongs to insurance companies, clubs, societies, trust funds, etc., or is paid away to foreigners. A corresponding sum for 1911-12 gives as remainder the total in the text.

of a particular amount (graded equally in £'s or £100's), a straight line is still obtained. This law has been applied separately to the data, for incomes below £700, and to those for incomes above £5000. The result is shown in Diagram I. The gradients of the two

INFLUENCE OF RATE OF TAX ON CLAIMS FOR ABATEMENT.

Number of claims for amount allowed on incomes;

A—A £200 to £700

B—B £200 to £2000

C—C £2400 to £2500

D—D £100 to £2400

**** Tax-pence per £

..... Tax on earned incomes, when differing from that on unearned.

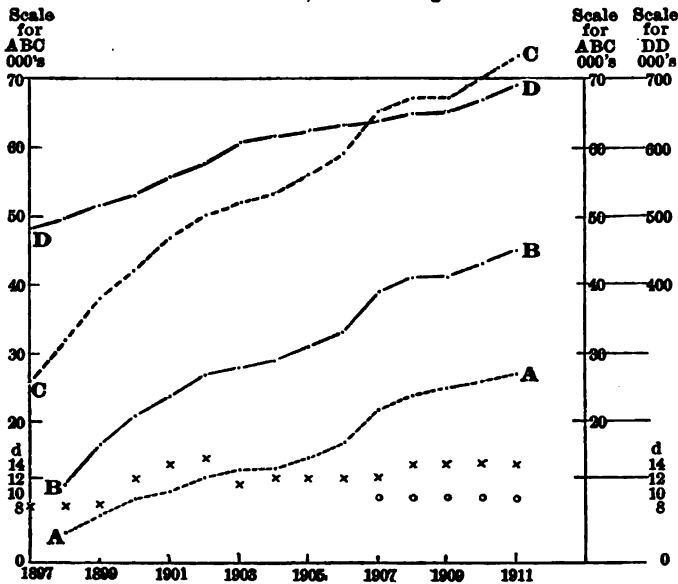


DIAGRAM I

lines are equal, but the lines are not coincident. The law from the upper group suggests twice as many incomes as that for the lower group. The law is well obeyed in the lower group, and in the upper till we come to incomes of about £55,000, above which the law would give a surplus over the facts.

The law for the lower range shows an aggregate income of £251,000,000 for the 880,000 persons with incomes from £160 to £700, and from the data with or without the law a sum very near this must be obtained. Taking this amount in conjunction with the known amount above £5000 and the known total, we find that £414,000,000 is to be accounted for between £700 and £5000. This is very much more than the £142,000,000 that the lower law would give if it were continued, and more even than the £304,000,000 that the upper law would give if continued back, and not far from the two combined.

No complete explanation of this very considerable discontinuity can be given. If we could consider that the number of persons below £700 were grossly underestimated, or that several thousand persons who are liable to super-tax evade it, then the difficulty would tend to disappear; but there seems to be no sound reason for either hypothesis. The legal definition of income for super-tax purposes differs from that for ordinary income tax, *e. g.*, in the treatment of insurance premiums, with the general effect that the higher incomes may be understated relatively to the lower ones, and incomes not much over £5000 may not come in to the super-tax account; but this can only account for a fraction of the total.

A conjecture may be offered on the following lines. There is nothing unreasonable in the supposition that earned incomes follow a law nearly independent of unearned incomes. People with small earnings may be the accidental owners of capital, and people with large capital may also make large earned incomes; but the joint possession of such double incomes, tho quite common, may be regarded as accidental. The fragmentary statistics in Note V suggest that a very con-

siderable part of the incomes below £700 is earned, and the statistics of Note IV suggest that the major part of incomes over £10,000 is unearned. In the region between £700 and £10,000 there must be a large proportion of mixed incomes. It is suggested, then, that the two Pareto gradings tend to represent respectively incomes arising from earnings and incomes arising from property, tho if the lower were purified of property and the upper of earnings, both lines would be lowered and the aggregates would be less. Then in the intermediate region (£700 to £10,000 and more especially to £5000) we should tend to find the aggregate resulting from the two laws, as in fact we do. The upper law gives 212,000 incomes in this region and a much greater number below £700, the lower gives 102,300 in this region; on the hypothesis of mixed incomes these numbers are not independent, and the number of persons is between 200,000 and 300,000.

Whatever be the explanation of the discontinuity, there is certainly presumptive evidence for an aggregation of incomes in this intermediate region of the moderately rich. As to their number, if the average income between £700 and £5000 were £1500, the number would be 280,000; if the average were £2500, it would be 165,000. A number about 200,000 and an average about £2000 seems to fit the facts best.

To summarize this discussion the following table may be given.

ESTIMATES OF PERSONAL TAXABLE¹ INCOME IN THE UNITED KINGDOM

	Number of persons	Aggregate income	
£ 100-£ 700	880,000	£250,000,000	Too small if abatements are not claimed.
£ 700-£5,000	200,000	415,000,000	The number is conjectural.
£5,000 and over	12,000	145,000,000	Too small if there is evasion, or if the difference of defini- tion is numerically impor- tant.
	1,100,000	£810,000,000	

¹ Including income subject to abatement.

The general conclusion must be that the statistics arising from the imposition of the super-tax have tended to raise new problems rather than to solve old ones.

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NOTE I

INCOME BETWEEN £160 AND £700¹

Computed Numbers of Abatements allowed on Incomes of £700 and under (000 omitted)

Range of income	1897 ²	1898	1899	1900	1901	1902	1903	1904
£160-£400 ..	481	496	516	530	555	575	603	613
£400-£500 ..	26	32	38	42	47	50	52	53
£500-£600 ..	..³	11	17	21	24	27	28	29
£600-£700 ..	..³	4	7	9	10	12	13	13
	—	543	577	601	636	664	696	709

	1905	1906	1907	1908	1909	1910	1911
£160-£400	622	629	638	648	649	669	689
£400-£500	56	59	65	67	67	70	73
£500-£600	31	33	39	41	41	43	45
£600-£700	15	17	22	24	25	26	27
	725	737	764	780	782	808	834

The abatement allowed on incomes not exceeding £400 is £160 throughout the period; thus a person with an income of £390 would pay tax on £230.

In 1897-98 the abatement on £400-£500 was £100; in subsequent years, £150.

The abatements on incomes of £500-£600 and £600-£700 were £120 and £70 from 1898-99.

The tax was 8d. in the pound in 1897-98, 1898-99, 1899-00; 1 shilling in 1900-01; 1s. 2d. in 1901-02; 1s. 3d. in 1902-03; 11d. in 1903-04; 1s. in 1904-05, 1905-06, 1906-07; 1s. on unearned and 9d. on earned income in 1907-08; 1s. 2d. on unearned and 9d. on earned income in 1908-09, till the present date.

¹ 46th and 56th Reports of the Commissioners of the Inland Revenue.

² Fiscal year beginning April, 1897.

³ No abatements on incomes above £500 till 1898-99.

The numbers are obtained by dividing the total amount admitted for abatement in each class by the maximum (£160, £150, £120, or £70) that can be allowed; but in fact it is supposed that some people do not claim the maximum (since it may involve more trouble to claim for the whole amount than for part) and therefore the average divisor is somewhat too large and the numbers too small. Sir H. Primrose (the chairman of the Board of Inland Revenue) in 1906 thought that the deficiency "might be at least as much as" 25,000 ($3\frac{1}{2}$ per cent) in 1903-04. For the same date he thought that the addition of 10% to the numbers, for those who were entitled to abatement but did not claim it, would not "be an excessive estimate." He did not, however, commit himself to such large additions.

It is to be noticed that the numbers of abatements, which had shown little movement in the years 1892 to 1897, advanced rapidly as the rate of tax increased to its maximum (1s. 3d.) in 1902-03; since then the growth in the class under £400 has been only about 2% per annum. A further considerable increase occurred in the numbers in the higher classes when the rate on earned incomes was made 3d. and subsequently 5d. less than on unearned; in claiming this differentiation it was easy to claim abatement also; but the growth since 1908 has been slight. It seems that the great part of the group who did not claim in 1903 must now be included, and that instead of adding 13% we should add much less, say 6%. The number of incomes between £160 and £700 in 1911-12 was almost certainly between 850,000 and 900,000, and probably near 880,000. This view is confirmed by Pareto's Law of Grading.

NOTE II

SUPER-TAX YIELD¹

Year of Assessment	Estimated or realized ²		Number of Persons chargeable
	Total Income	Yield of Tax	
1909-10	£140,100,000	£2,650,000	11,380
1910-11	141,300,000	2,670,000	11,500
1911-12	145,950,000	2,775,000	11,650
1912-13	149,400,000	2,850,000	11,800

¹ 56th Report of the Commissioners.

² The numbers for 1909-10 are complete: there were still a small number of returns to come in for subsequent years: thus it is supposed that another 100 persons will have to be added to the next table.

CLASSIFICATION OF INCOMES AND NUMBERS IN 1911-12

Incomes		Total Assessed £000's.	Number of Persons
Exceeding	£5,000 but not £10,000	50,851	7,411
	10,000	15,000	24,384
	15,000	20,000	13,550
	20,000	25,000	9,697
	25,000	35,000	11,099
	35,000	45,000	7,303
	45,000	55,000	5,269
	55,000	65,000	3,353
	65,000	75,000	2,576
	75,000	100,000	4,733
	100,000	12,177	66
Totals		144,994	11,554

NOTE III

PARETO'S LAW

Pareto's Law, in its simplest form, is $N = \frac{A}{x^a}$ (i) when N is the number of persons whose income is greater than x units per head; A and a are constants to be determined from the data.

This gives, number at $\pounds x$ is $\pounds \frac{aA}{x^{a+1}}$. (ii)

Aggregate income above $\pounds x$ is $\pounds \frac{Aa}{a-1} \cdot \frac{1}{x^{a-1}}$. (iii)

Average income above $\pounds x$ is $\pounds \frac{a}{a-1} x$ (iv)

In the case where $a = 1.5$, average income between $\pounds x_1$ and x_2

$$\text{is } \pounds \frac{3x_1x_2}{x_1 + \sqrt{x_1x_2} + x_2} \quad \text{(v)}$$

1. If we take 880,000 persons as having incomes between $\pounds 160$ and $\pounds 700$ it is found that $a = 1.5$ gives a good fit and that $\log A$ then = 9.3009.

	Number of persons		Calculated Amount of Income in £ millions
	Calculated	Actual Abatements	
£160-400	738,100	689,000	..
400-500	71,100	73,000	..
500-600	42,700	45,000	..
600-700	28,100	27,000	..
£160 to £700	880,000	834,000	£251
£700 to £5000	102,300		142
£5000 and more	5,600		85
Total	988,000		£478

Below £700 the relation between the abatements and numbers is precisely that expected, the defect in the first line being due to non-claiming of the full abatement (Note I). But the income and number above £5000 is too small, and the total income should be £810,000,000 instead of £478,000,000.

2. From examination of the super-tax statistics it is found that $a = 1.5$ and $\log A = 9.618$ gives a very good fit from £5000 to £55,000 and then gives numbers in excess; thus:—

	Number of Persons		Aggregate Income	
	Calculated	Actual	Calculated	Known
£5,000 to £10,000	7,546	7,411	...	...
10,000 " 15,000	1,890	2,029	...	...
15,000 " 20,000	790	787	...	...
20,000 " 25,000	424	438	...	...
25,000 " 35,000	411	382	...	...
35,000 " 45,000	199	186	...	...
45,000 " 55,000	103	107	...	...
55,000 " 65,000	70	56	...	...
65,000 " 75,000	50	37	...	...
75,000 " 100,000	118	55	...	...
100	83	66	000,000's	
£5,000 and up	11,700	11,554	£166	£145
£ 700-£5,000	212,175		304	
£ 160-£ 700	1,827,000	880,000	514	
Totals	2,051,000		£984	£810

The number below £700 is impossibly large.

Diagram II shows that these dilemmas cannot be escaped, for the vertical heights of marks do not depend on any assumed value

of A , and the horizontal positions (calculated from formula (v) where a is taken to be 1.5) would only be microscopically affected by any other reasonable value of a .

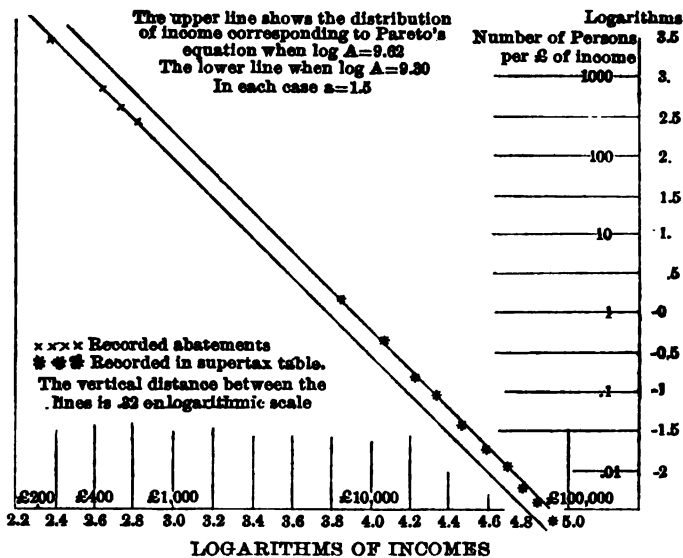


DIAGRAM II

The more developed form of Pareto's Law, $N = \frac{A}{(x+b)^c} \cdot 10^{-cx}$, where b and c are additional small constants, is found, after several trials, not to get over this difficulty.

In the diagram the marks show the numbers of persons *at* each income, whereas it has been usual to show the aggregate numbers *above* an assigned income when this formula has been used. The marks show the actual numbers of abatements, whereas the slant line is drawn for the corrected numbers of incomes.

NOTE IV

DEATH DUTY STATISTICS

Computed from the 56th Report of the Commissioners

Number of estates of various values:—

1. Actual. Average, passing at death, for the years 1907-08 to 1912-13, which is very nearly the same as the number in 1912-13.

2. Calculated. By Pareto's Law, taking the number above £100,000 to be 290 and their average value to be £297,000. Then $a = 1.5$ and $\log A = 9.9624$.

Range			Actual	Numbers	Calculated
Over £1,000,000			8½		9
	000's				
£750	to	£1,000	5½		4
500	"	750	12		7½
250	"	500	51		53½
150	"	250	90		85
100	"	150	123		132
75	"	100	138		156
50	"	75	292		371
25	"	50	884		1,503
10	"	25	2,376		6,850

The Law ceases to accord with the facts at about £150,000 capital. This may be connected with the change at about £55,000 in Note III. In both cases the numbers at the higher ranges, of income or of capital, are smaller than would be expected from a study of the lower ranges.

The connection between the capital passing and unearned income taxable teems with difficulties. Thus there are 321 persons paying tax on incomes of over £55,000, but only 9 millionaires dying per annum. Again, full tax is paid on £632,000,000 per annum, and this might be expected to contain only earned income of persons having over £3000 a year; but only £280,000,000 in all passes at death per annum, which is held to correspond to 24 times that sum (*Statistical Journal*, 1908, p. 74), so that reckoning interest at 4½% the income from property would be £280,000,000.

Because of these difficulties, no direct use has been made of these statistics in this paper.

NOTE V

STATISTICS OF "EARNED" INCOME

From 56th Report, Table 93

	Earned Income taxable at 9d.		Unearned Income taxable at 1s.	Total £000,000's
1907-08	188	..	612	799
1908-09	197	..	627	824
		1s.	1s. 2d.	
1909-10	207	7	608	822
1910-11	212	11	615	838
1911-12	221	13	632	866

See Note I for the causes of the different rates of tax.

Owing to various reasons the incomes named do not belong exactly to the fiscal years against which they are given. The incomes as given are before abatements are subtracted.

From 52d Report, p. 139, note: repeated in 53d Report. Tax at 9d. was allowed in approximately three-quarters of a million cases.

From 56th Report, Table 126. [Corresponding tables are given in previous reports.]

ASSESSMENTS ON INCOMES OF EMPLOYÉES. 1911-12		
Range	Number	Amount in £000,000's
£160-400	364,000	112
400-500	29,300	
500-600	14,400	
600-700	8,000	
700-1,000	13,500	11
1,000-2,000	7,700	11
2,000-3,000	1,100	3
3,000-4,000	300	1
4,000-5,000	200	1
5,000 and above	200	2
Totals	438,700	142
FIRMS assessed	54,700	84
PERSONS (not employés) assessed	45,200	111
Grand totals	538,600	£337 million

This table shows the number of personal assessments under Schedules D and E, as distinguished from companies, public loans, etc., and ownership of land and houses and occupation of land.

It is not possible to say what part of the income of persons (not employés) and firms is "earned" and what part is taxed as unearned.

Since firms are formed by different numbers of partners, it is not possible to give the numbers of persons in them nor any data as to individual incomes.

More assessments than one are frequently made on the same person, if his income arises from various sources.

We cannot then connect in detail Tables 93 and 126, and cannot distribute the earned income by amounts. But it is clear that a considerable part of the £250 millions under £700 is earned.

THE DEVELOPMENT BY COMMISSIONS OF THE PRINCIPLES OF PUBLIC UTILITY VALUATION

SUMMARY

Theories of valuation in process of development by Commissions, 269. — Plant and equipment. "Reproductive" value or original cost? 271. — Treatment of land value; peculiar position of St. Louis and New York Commissions, 274. — Pavements, 279. — Overhead charges; two methods of computing, 281. — Development expense and going values; Wisconsin method and New York method, 284. — Peculiar method in New Jersey, 287. — Conclusion, 291.

THE Supreme Court of the United States has established the principle that a public utility is entitled to a reasonable return upon the fair value of the property being used in the public service, and that the question of such reasonableness is a matter for judicial review. It has failed, however, to formulate any definite principle as to what constitutes the fair value of a property for rate making, other than to point out that certain factors must be given consideration,¹ and to say that the value which should be used as a basis for rates is the value of the property at the time it is being used.²

In spite of the indefiniteness in the decisions of the Supreme Court, there are being developed in the United States at the present time well defined precedents and usages in the valuation of public utilities for rate making purposes. Theories of valuation are being developed by the public service commissions, to whom the legislative bodies have delegated the regulatory power.

¹ *Smythe v. Ames*, 169 U. S. 466.

² *San Diego Land and Town Co. v. National City*, 174 U. S. 739.

It is to the decisions of the commissions which regulate rates that one must look for the development of theories of valuation, in their intricate details and refinements. The purpose of this paper is to describe and compare some of the principles of valuation for rate making purposes developed by some of the leading public utility commissions in the United States.¹

It is noteworthy that the Massachusetts Board of Gas and Electric Light Commissioners, the oldest rate making commission in the United States,² has contributed nothing to the theory of valuation. No specific appropriation has ever been given to the Board for the purpose of making valuations, and no organization has ever been created. Since its organization, the Board, under legislative direction, has imposed restrictions upon the issue of securities. It has been customary to base an estimate as to the amount upon which the company should be permitted a reasonable return, upon the amount of securities which have been approved by the Board or which might have been so approved. Therefore this commission has seldom made valuations, and when it has based a rate to the consumer upon the value of the property, it has failed to indicate the principle by which it arrived at a valuation. But other state and municipal public utility commissions, all of which have been established since 1907, have developed a considerable body of theories and principles of valuation.

¹ The commissions of the various states which possess some powers of regulation of railroads only are not referred to in this paper. Only "public utility commissions" are included, that is, those possessing power over several utilities. The California and Wisconsin Railroad Commissions, herein referred to, have wide powers of regulation of various utilities.

² The Massachusetts Railroad Commission was established in 1889, but it cannot fix rates, its powers being only recommendatory. The Board of Gas Commissioners was organized in 1885, and in 1887 was re-organized into the Board of Gas and Electric Light Commissioners.

PLANT AND EQUIPMENT

The general rule is to appraise plant and equipment at its present, or "reproductive," value. This amount is arrived at in various ways, sometimes by a valuation conducted by engineers in the regular employ of the commission, sometimes by the testimony of expert witnesses familiar with the particular business and plant values therein, sometimes by a valuation conducted both by engineers for the company and for the commission. In the two cases last named, the amount often represents a compromise. Whatever the method, the amount accepted is presumed to represent proximately the depreciated value of the plant and equipment owned by the company, at the existing prices of land, labor and materials.

The St. Louis Public Service Commission, however, which has proven itself probably the most efficient and successful municipal commission, employs the original cost theory, and is its leading advocate. In its valuation of the property of the Union Electric Light and Power Company in 1911, the Commission rejected the theory of cost of reproduction, saying that "it disregards the actual conditions under which the property was produced, and sets up a purely hypothetical case." Therefore, instead, the Commission assigned to each item "its original cost in place and ready for service." Again, in its report on the valuation of the United Railways Company, in November, 1912, the St. Louis Commission says "The Commission in its valuation has relied mainly upon original cost as the theory most calculated to bring about a just result. . . . The Commission believes that in trying to determine the amount of property upon which a public service company is entitled to a reasonable return from the public

. . . the circumstances under which that property was created and placed in the public service should be taken into account. This view leads us to the use of the original cost theory where practical. . . ."¹ The method by which the original cost is computed by the Commission is to make a complete detailed inventory of the entire physical property, and then assign to each item its original cost, based upon costs as taken from the contracts in the files of the company, where possible, and when no such contracts are in existence, on estimates collected by the Commission's engineers.

While the New Hampshire Public Service Commission has not yet developed a theory of valuation, it is evident that it regards original cost as an extremely important factor. For in a recent rate case,² it held that it was unnecessary to make a valuation of the property, since it was clear that the original cost of the property, less depreciation, was in excess of the amount upon which the company was earning a return.

In rejecting the original cost theory, the Connecticut Public Utility Commission says: "We do not think that the original cost of construction, whatever that may have been, the price paid for the line by the company, are proper standards to determine the value of the plant and equipment for which the company is entitled to receive a fair income, but that the cost of reproduction at the present time in this particular case is a more accurate standard."³ This reasoning seems to be accepted by the commissions of the following states, all of which base their valuations upon present or reproductive value: California, New Jersey, New

¹ Report on the United Railways Company of St. Louis, by the St. Louis Public Service Commission, 1912, p. 12.

² In *Brown et al. v. Exeter, Hampshire and Ames Street Railway*, Report of New Hampshire Public Service Commission, 1912, p. 139.

³ First Report, Connecticut Public Utilities Commission, 1912, p. xxxvi.

York, Maryland, and Wisconsin, and also by the Board of Public Utilities of Los Angeles.

Which of these principles is the more nearly just? In the opinion of the author, either is fair, if accompanied by an appropriate return. The rate of return, however, should depend upon which of these methods is adopted. If present value is to be taken, the result is that the company will be called upon to bear the burden of any decrease in the value of its property, and to accept a lessened return because of such depreciation. It is true that the company will also be entitled to the benefit of any appreciation. Yet the amount upon which it may earn a return in the future is indefinite and uncertain. The rate of return should therefore be sufficient to compensate the corporation for assuming this risk. In some cases it may be that the possibility of increased value, due to the ownership of land, will more than offset the possibility of a lessened value of the other property. But land does not ordinarily represent a large portion of the value of municipal utilities, operating in the public highways. Whenever a company is called upon to assume a risk as to the future value which will be placed upon its property, that risk should be given proper consideration in establishing the rate of return to be permitted. If, however, original value is to be applied, then the company will be freed from any risk as to future fluctuations in the value of its property, since the amount upon which it may expect a return is established once and for all. In such case, the rate of return permitted should properly be somewhat less. Theoretically, either method of valuation is fair, if the rate of return is regulated accordingly. Practically, however, the theory of present value is much easier to apply, since but few corporations have records by which to prove the original cost. The repro-

ductive theory also seems much more in harmony with the decisions of the courts.

The rapid increase in the value of land in large cities has given rise to the feeling that the public should not be taxed to give a return to the companies upon increased land values, which, it is argued, have been created by the public. This question presents itself with much more force in the valuation of railways, which own their rights of way, than with the municipal utilities, which simply operate in the public highways. Nevertheless, the question of the proper treatment of land is becoming an important one in the valuation of utilities of the latter kind, since they must own more or less land in order to operate their business.

As a rule, the commissions have followed the same principle in the treatment of land which they employ in the valuation of plant, *i. e.*, valuation at its reproductive value. The Wisconsin Railroad Commission justifies itself in thus permitting the companies to derive the benefit from increases in land values by declaring that such appreciation is of a kind which is regarded as right and proper in other undertakings, and which, therefore, ought not to be denied to public service corporations.¹ With but two known exceptions, all the commissions have followed the Wisconsin practice.

The two commissions which have differentiated in their treatment of land and of physical plant are the St. Louis Commission and the New York First District Commission. Each of them employs a different method and each method is inconsistent with itself. The New York First District Commission adopts the method of including the estimated future increase in land value in the income of the companies, when establishing rates to the consumer. This is justified on the ground that

¹ Wisconsin Railroad Commission Report, vol. iv, p. 579.

"if depreciation is a debit, appreciation is a credit." The Commission points out that it allows on physical property a depreciation rate for the future which is based upon past depreciation. This it makes a charge against income, in establishing a rate which will give a fair return to capital value. It maintains that therefore an estimate of the future appreciation in value of the property should be placed as a credit to the future estimated income. The estimate of future appreciation is to be based upon the past increase in the land values, the average rate of appreciation being secured by subtracting the original cost of the land from its present value and dividing this amount by the number of years. The rate of appreciation, however, is to be estimated in the light of the existing trend of prices. The Commission realizes that this method can give but an estimate of future appreciation, but expresses itself as being willing to grant rehearings in case its estimates do not work out. The Commission says:¹ "If property is to be taken at its depreciated value where it has depreciated, an entry must regularly be made in estimated operating expenses equal to the average annual depreciation. Conversely, if land, or any other property which generally appreciates in value, is to be taken at its appreciated value, then an entry must be made in the estimated receipts equal to the average appreciation. Unless this is done, it is obvious that the consumer will be burdened with all the estimated decreases in assets but not credited with the increases in assets." This theory was also explained at length in a later case, in which the Commission said:² "In determining operating expenses, an allowance was made to meet depreciation as a charge against income, for rates should

¹ *In re Gas & Electric Rates of the Queens Borough Gas and Electric Company*, no. 2, P. S. C., 1st Dist. N. Y., June 23, 1911.

² *Kings County Lighting Co.*, no. 2, P. S. C., 1st Dist. N. Y., October 20, 1911.

be such that the consumption of capital may be offset by deductions from income. If these processes are correct, it follows that appreciation should be placed as a credit to the estimated income. It is indisputable that if depreciation is a debit, appreciation is a credit."

The essence of the scheme is to deny to the companies the advantage of increases in land values. If such increases occur, the increase is to be computed as part of income, and thereby to lessen the charges to the consumer. In all fairness and justice, the Commission would, therefore, find itself compelled to follow the reverse principle: if there are decreases in land values, charge them to operating expense, and thereby increase the charges to the consumer. This means, so far as land is concerned, that its value is in reality to be established at its value at the time of the first valuation by the Commission. From that time on, there can be no increase or decrease in its value which will materially affect the company's finances. It is the consumer who is to be affected, advantageously by increases in land value and disadvantageously by decreases in land value.

Apply this principle to a new utility plant. The result is, in effect, that the land value is permanently established at its original value (to the company). True, the land value may increase, and the company will be permitted to earn a return upon the increased valuation. But this will be offset by including in the company's earnings the amount of the increased land value, thereby lessening the amount which the consumers must pay, so that the company is no better off than if its land had not increased in value. Likewise, the land value may diminish, and the company will be permitted a return only upon the diminished valuation. But this seeming loss to the company will be offset by adding it to the operating expenses, above which the

consumers must pay a reasonable return upon the company's property. Therefore, the company is no worse off because of its decreased land values. This plan is a virtual acceptance of the original value theory, if applied to a new utility, or, if applied to a company which is being evaluated for the first time, but which has been operating previously, what might be called "the existing and unchanging valuation."

The inconsistency lies in that the New York First District Commission does not apply such a principle of valuation to other property. Throughout its decisions it appraises the other property on a basis of its present value, *i. e.*, its reproductive value at the time of evaluation, which permits fluctuation. In other words, it applies a theory by which, in effect, the value of land may not change, whereas the value of physical plant may.

The St. Louis Commission is also guilty of inconsistency in its treatment of land. This Commission, as already pointed out, employs the original cost principle in appraising the physical plant. Curiously enough, it rejects this principle in its valuation of land, and uses present value. In its valuation of the property of the Union Electric Light and Power Company (1911) the Commission offers no explanation whatever for its differentiation between land and physical equipment aside from the statement that "Inasmuch as the land is used in serving the public, and if not so used could be realized upon by the company at its present value, it seems only fair that this present value should be the basis for estimating the amount of return which the company is entitled to earn." But such a statement, it is obvious, would be equally true of all the other physical property of the company, which the Commission valued at its original cost. In its valuation of the

property of the United Railways Company, in 1912, the Commission again made the same differentiation in the treatment of physical property and land, and offered, as a justification, the fact that "real estate, in American cities at least, is almost certain to rise in value," whereas in the case of buildings and plants "the fluctuations in price are uncertain and generally small and compensating." Therefore, argued the Commission, this rise in the value of real estate was presumably part of the inducement to make the investment, and should be recognized as a legitimate gain of the company.¹ It would seem, however, that the certainty of a great appreciation of real estate in the cities would be sufficient reason why such discrimination should not be made, if the public is to be safeguarded. The inconsistent method of the St. Louis Commission is one which is likely to prove extremely advantageous to utility companies, since the original cost of physical equipment and plant, several years after its purchase, would very often greatly exceed its present value, while the present value of land would generally be much higher than its original cost. The inconsistency of the New York First District Commission is one likely to prove disadvantageous to the companies, since the original cost of urban land, several years after its purchase, would be likely to be much less than its present value, while the present value of physical equipment would often be much less than its original cost. In other words, under the St. Louis plan the utility company has both ends of the stick; under the New York method, both ends of the stick are with the public.

This paper makes no argument for the principle of original cost or for that of present value. As already pointed out, the justice of either depends upon what

¹ Report on the United Railways Company of St. Louis by the St. Louis Public Service Commission, 1912, p. 23.

theory as to a reasonable rate is to be adopted. But whichever principle is applied should be applied consistently. If land is to be valued differently than other physical property, the commission doing so must assume the burden of showing cause for such discrimination. This both the St. Louis and the New York First District Commission have failed to do.

PAVEMENTS

The fact that pavements have been laid after the pipe-lines or conduits of utility companies are in the ground gives rise to some questions. In such cases, if the policy of present valuation is adhered to, ought not the value of the plant to be estimated upon a basis of what it would cost to reproduce it under the present conditions, with pavement in the street? It is evident that if this method of appraisal is adopted, valuations will be greatly enhanced. This claim was first advanced by the Consolidated Gas Company of New York, in the well-known "Eighty cent gas case."¹ It has been advocated by utility corporations before several commissions within the past few years, upon the basis of the decision of the United States Supreme Court in the above case. In discussing land valuation, the Court said: "If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase." But, the Court did not find it necessary in this case to pass upon the claims of the company on pavement valuation, and the commissions have apparently believed that pavements are not "property which legally enters into the question of rates."

¹ *Wilcox v. Consolidated Gas Company*, 212 U. S. 19.

The Wisconsin Commission refuses to allow any additional valuation for pavement where the company has not paid for it, or incurred any expense for it,¹ altho admitting that expenditures for pavements incurred because of assessments levied by the city, and the cost of cutting pavement in order to lay mains and that of replacing such pavement, are legitimate capital charges. The New York First District Commission takes the same position, saying;² "If this theory (inclusion of pavement values) is correct, citizens must consider in connection with every civic improvement its effect upon rates for gas, electricity, telephone service, water, transportation, and every other service which involves the use of the subsurface of the streets. If such improvement increases the cost of reproducing the undertaking supplying the service, higher rates will thereby be justified than would be reasonable before such improvement be made. . . . The cost of reproduction method may be the only method which can be used in some instances, but to follow it to the last extremity in all cases, ignoring all other considerations, not only leads to absurd conclusions, but runs counter to judicial decisions." The New Jersey Commission also refuses to make allowance in valuation for paving "laid subsequent to the installation of the mains, and not paid for by the company."³ The California Commission⁴ refuses to allow any amount "for tearing up and relaying pavement in excess of the amount actually expended therefor." This mode of treatment is also followed by the St. Louis Commission. The author

¹ Ripon Light and Water Company, 1910, Wisconsin Railroad Commission Reports, vol. v, p. 1.

² *Mayhew v. Kings County Lighting Co.*, no. 2, P. S. C., 1st Dist. N. Y., decided October 20, 1911.

³ In the matter of rates of Public Service Gas Co., New Jersey Public Utilities Commission, Reports for 1912, p. 31.

⁴ *City of Palo Alta v. Palo Alta Gas Co.*, decided March 12, 1913.

knows of no commission which has allowed an increased valuation to property because of the presence of pavement not in existence when the property was put in place and not paid for by the company. The fact that the commissions have developed a course of action on the subject of allowances for pavements, the reverse of what might naturally be expected as the logical interpretation of the decision in the Consolidated Gas case, is an encouraging indication of the tendency of the commissions to develop independent courses of action, and to decide economic questions not by a blind application of precedent but by independent reasoning. And certainly the attitude of the commissions concerning pavements is sound. To penalize citizens by permitting a higher utility rate because they have decided to tax themselves to lay pavements in their own streets would be a *reductio ad absurdum* of the present value theory.

OVERHEAD CHARGES

Certain items, usually called overhead charges, should be added to the cost of material and labor in order to get the true valuation of the property. The Maryland Public Service Commission is the one commission which thus far has refused to make any allowance for intangible elements. Altho it has made several valuations of large properties, the most important being the Chesapeake and Potomac Telephone Company of Baltimore and the Consolidated Gas, Electric Light and Power Company of Baltimore, it has included, up to the present, in its valuations nothing but the physical or structural values. But the necessity of allowing for overhead and intangible elements is generally recognized by the other commissions.

Two methods of computing the overhead charges are in use: (1) to compute accurately the expense involved for all overhead purposes; (2) a percentage "allowance" to be added to the structural value.

The first method is that employed by the New York First District Commission. Its basis for estimating the proposed amounts of allowable overhead charges is to add to the physical valuation the following items:¹ (1) Expenses of supervising, engineering, contractor's profit, etc. (2) Expenses of promotion, organization and development of the company. (3) Expenses of interest and taxes during construction. (4) Working capital. All the above are regarded by the Commission as legitimate items to be included in the valuation. The amounts to be allowed are obtained from records as far as possible. When the records are missing, the estimates are based on general knowledge and experience, and an effort is made to arrive at a sum which will represent what was actually spent or might have been expended for these purposes. This practice is also largely followed by the St. Louis Commission, which arrives at its allowance for interest, taxes and insurance during construction, by ascertaining the actual expenditure of the companies as indicated by the companies' books, the tax records, and other available data.

The second method is represented by the practice of the Wisconsin Commission, which generally allows 12% on the reproduction cost to cover overhead charges. In the City of Ripon case² the Commission explained that its figure of 12% is made up as follows: 5% for engineering and superintendence; 4% for interest during construction; 3% for organization and legal

¹ Queens Borough Gas & Electric Co., no. 2, P. S. C., 1st Dist. New York, June 23, 1911.

² Wisconsin Railroad Commission Reports, vol. v, p. 13.

expenses. The Wisconsin practice of allowing 12% was followed by the New Jersey Commission in its early cases.¹ Recently, however, the New Jersey Commission seems to have adopted a new figure for this purpose, 17.6% which includes engineering, supervision, omissions, contingencies, and interest during construction. This figure appears to be the result of estimates submitted by five different engineering firms, and is accepted as being "the fairest estimate of all these allowances."² The percentage method is also followed by the Los Angeles Board of Public Utilities, which includes "the usual 20% above cost, to cover engineering, supervision, interest, and contingencies during construction."³ The California Commission in railroad valuation cases is accustomed to allow 5% for engineering and organization expenses, 1% for legal expenses, and 6% interest for one-half the period of construction. Where the Commission finds that it may have overlooked items, it allows an additional percentage for contingencies, ranging up to 5%.

In the case of companies which have been recently organized, or which have reliable records and accounts showing past expenditures, doubtless the method of exact computation followed by the New York First District Commission and the St. Louis Commission is the more desirable. Commissions which intend to follow this practice should notify companies in their jurisdiction that all expenditures for such purposes in the future must be properly charged and recorded, if they are to be recognized in valuations. In the case of companies whose expenditures for these purposes extend far back in the past, and which have not records

¹ Report of New Jersey Public Utilities Commission for 1911, p. 109.

² *Matter of Rates of Public Service Gas Co.*, Dec. 26, 1912. Third Annual Report of the Board of Public Utilities Commissioners of New Jersey, p. 246.

³ Los Angeles Board of Public Utilities, First Annual Report, p. 69.

indicating the amounts so expended, doubtless all that can be done is to accept some percentage basis which will give an approximation to amounts properly allowable. It would seem, however, that the commissions might reasonably be expected in the future to evolve some percentage bases for this purpose which will be more nearly uniform.

DEVELOPMENT EXPENSE AND GOING VALUE

If the corporations are to receive a return which would be only sufficient to attract capital under present conditions, what is to be done regarding the deficit or dearth of adequate returns during the early years of the company's history? Are these not a part of the investment necessary to establish the business? It is evident that unless such losses are in some way to be made up to the companies, private capital for the industries will not continue to be forthcoming. Two methods of dealing with this problem have been adopted: (1) The Wisconsin method, which is to add early deficits and developmental losses to the valuation of the plant. Such losses, therefore, became assets, upon which the consumers are to pay a return permanently. (2) The New York First District Commission's plan, which is to permit the company to charge in later years a rate sufficient to offset the deficiencies below a fair rate in the early years.

The Wisconsin Commission says, in justification of its method;¹ "These early losses . . . represent the cost of the business in very much the same way as that in which the cost of construction represents the cost of the physical plant. One appears to be as legitimate and necessary a part of the cost of the enterprise as the

¹ Wisconsin Railroad Commission Reports, vol. iii, p. 624.

other." The Commission questions whether the New York First District plan, of writing off such amounts by charging them directly to consumers in later years, is equitable, since by this method the charge is shifted from all consumers to a part of them only. It further holds that such an increase in rates is likely to retard "that development of the business which is the chief source for future reductions in rates." The Commission qualifies the application of this principle by recognizing that early deficits can be thus treated only when the conditions under which they were incurred are proper ones.¹ "When such deficits are due to abnormal conditions, or are due to bad management, defective judgment, extravagance, lack of ordinary care or foresight, unduly high capital charges, and other causes of this nature, it is manifestly clear that they should be accorded little or no consideration, in either the valuation or the rates."

Apparently the New Jersey Commission also accepts the principle of adding early losses to the valuation of the property, for in explaining what it means by "going concern value," which it adds to the physical valuation, it says: "It may include the cost of soliciting business, cost of advertising, and also the dearth of adequate returns during the early developmental years of the company."² The St. Louis Commission also adopts this principle, and in its valuation of the property of the Union Electric Light and Power Company allowed \$1,000,000 for this purpose, saying: "These initial losses . . . are in fact a part of the legitimate investment, and should be permitted into the earning value as a part of the investment."³ The California Com-

¹ Wisconsin Railroad Reports, vol. iv, p. 585.

² New Jersey Public Utilities Commission Reports, 1912, p. 246.

³ Report of the St. Louis Public Service Commission on rate for light and power, 1911, p. 54.

mission approves of the doctrine that early losses should be recouped to the companies in some way, saying: "That there are certain actual costs incurred in developing the business during its early stages, for which costs the utility is entitled to be reimbursed, . . . seems too obvious for argument." The Commission, however, refuses to adopt *in toto* either the Wisconsin or the New York method, announcing that in its practice "the exact method to be pursued . . . will depend upon the facts in the particular case." As a matter of fact, however, the California Commission is on record as following the Wisconsin practice.¹ In a recent decision the Commission included in the valuation of the property a considerable amount to cover the excess of operating expenses over receipts for the first year and a half after gas was served by the company, and interest for this period on a physical valuation of the property, and other expenses incurred in developing the business.²

The objection of the New York First District Commission to this plan appears to be that thereby any close relation between the valuation used for rate making and the actual physical value of the plant may be destroyed. The Commission holds that "the amount included for going concern should be limited to expenditures made prior to the time when operation begins," and that after that, the various expenses which go to make up "going concern" should be charged to operation.³ If the policy results in losses in the early years, the company should be permitted in later years to charge rates sufficient to offset its deficiencies below a fair return in the early years. The Commission states

¹ *City of Palo Alto v. Palo Alto Gas Co.*, decided March 12, 1913.

² Exactly how much the Commission allowed to cover these items it does not state, but from the decision it appears that it was about \$8,000.

³ *Queens Borough Gas & Electric Company case*, decided June 23, 1911, no. 2, P. S. C., 1st Dist. New York.

that to include such losses in the valuation of the property, or to permit them to be capitalized "is absurd, leading to gross over-capitalization." The Maryland Commission has followed the New York practice, and in some cases where early losses actually occurred it has increased the rates in order gradually to provide for and cover such losses. But in no case has it permitted the inclusion of such losses in the plant valuation.

The Wisconsin practice seems to be the more rational. If the early deficits incurred in order to build up the business represent the cost of the property in the same sense that the investments in material equipment do, then the natural procedure is to add the amount of such deficits to the investment in equipment, the whole to represent the total investment upon which the company is entitled to a return. It is true that to do so means that a return upon these early deficits will be saddled permanently upon the consumers. But if such deficits (assuming them to represent wise expenditure) are a part of the legitimate and necessary investment in the property, this is certainly proper. The New York method brings a discrimination against the present consumers as compared with future ones. Why should the consumers of today be burdened with a higher charge for the purpose of recouping to the company one part of its investment (early losses), any more than they should be burdened with a higher rate to recoup the value of its land or buildings, in order that the consumers of tomorrow may not be required to pay a return upon such part of the investment?

Both the Wisconsin and the New York First District plans contemplate that only the deficits incurred in developing the business shall be made up in some way to the company. An entirely different method of reasoning is applied by the New Jersey Commission,

which holds not only that early deficits should be added to physical value, but that expenditures to get patronage and to develop the business should be included in the valuation, whether or no such expenditures have ever been recouped to the company. This theory is announced in its boldest form in the Public Service Gas case¹ decided Dec. 26, 1912. In this case the Commission announced that it would add about thirty per cent to structural value for "going value," such value to be "largely represented by the cost of developing the business, as distinct from the cost of securing the physical structure." The Commission held, "we see no escape from the necessity of recognizing the intangible property designated as 'going concern value,' as well as actual physical structures similarly obtained, as constituting part of the present lawful possessions of a public utility, even tho both the tangible and the intangible values were built up in the past, out of rates exacted from the consumers.

. . . If these high rates in the past have been employed by the company to acquire intangible property in the shape of extensive patronage, that expectation of patronage is theirs, and on its fair value the company is entitled to a return. The 'going concern value' will then be largely represented by the cost of developing the business as distinct from the cost of securing the physical structure." The principle laid down is that this cost of "developing the business" should be added to the value of the physical property, even tho expenditures for this purpose never produced a deficit, or a lack of adequate returns; in fact, quite regardless of what the returns of the company in the past may have been. "The going concern value may include the cost of soliciting business, cost of advertising, cost of inducing

¹ Report of the New Jersey Board of Public Utility Commissioners for 1912, p. 246.

consumers to take service, cost of exhibiting appliances, cost of occasional free installations, etc." In other words, all such expenditures in the past are to be charged to capital account, even tho these expenditures did not intrench upon a fair return. And this is because, "a plant with a business attached has a value greater than the value of the mere plant without the business attached."

This scheme represents, in the purest form, the capitalization, not simply of losses or deficiencies below a fair return, but of expenses. If all expenditures incurred by a company in order to secure and establish its business are to be added to capital value, then practically all expenses must be so treated, for practically every expense is incurred either to get or to hold business. All expenses of doing business are surely expenses incurred in order to hold the patronage, and are therefore responsible for the fact that the plant has a "business attached." The amounts expended for fuel with which to manufacture gas, the salaries of officials, the wages of employees, the cost of materials used, and all other legitimate operating expenses have been incurred either to develop or to hold patronage, and therefore, to "establish a plant with a business attached." For it is evident that if these expenditures were not made, there could not long be any patronage. It is obvious that to charge all operating expenses to capital would be unthinkable. But no differentiation can be made between the cost of getting patronage and the cost of serving the patronage, since without the service the patronage would not continue. Both are, properly, operating expenses.

The error of the New Jersey Commission is due to their unqualified acceptance of the premise "a plant with a business attached has a value greater than the

value of the mere plant without the business attached." This is always true in private business, but in the regulation of public utilities it may or may not be true. If a value in addition to physical value is to be allowed merely because there is a patronage established, it is evident that such value cannot depend upon the rate which the company is permitted to charge, for this in turn must depend upon the valuation allowed. The New Jersey Commission has endeavored to avoid this vicious circle by computing the going value upon the basis of what it actually cost the company to build up its business. But it is evident that if this is to be the basis for going value, then the cost added must be not the gross cost but the net loss, *i. e.*, the deficits or the lack of adequate returns due to developmental expenses. For it is only this amount which measures the *bona fide* investment, the sacrifice made by the owners of the property, in order to build up its business. To add the total expenditures made to develop the business regardless of the earnings which have been made means that all other operating costs incurred in the past, whether reimbursed to the company or not, should likewise be added to plant value: a preposterous proposal.

In rate cases in which the question of development expenses in the past arises, the fair method would be to ascertain whether, if all the amounts claimed to have been so incurred had been charged against operating expenses, the rate of return would have been less than a reasonable one. If not, surely these amounts should not also be added to capital value. And developmental expenses to be incurred in the future should certainly be charged to operating expenses. However, if income is not sufficient to permit these items to be so charged without encroaching upon a fair rate of return,

they should be charged to capital value only until earnings become sufficient to permit the other arrangement.

It is evident from the various methods of valuation herein described that at the present time there are few principles of valuation which are uniformly applied by all the commissions. While each commission regularly applies its own principles, the principles of the various commissions are in conflict. Yet the utility companies, since the movement for the establishment of state utility commissions which really began in 1907, have shown little desire to appeal from the decisions of the commissions to the courts. None the less, it is probable that the Supreme Court will, in the not far distant future, be called upon to definitely decide upon some of these conflicting theories of valuation.

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THE SOCIAL POINT OF VIEW IN ECONOMICS. II

SUMMARY

I. "Public point of view" *v.* "social point of view," 293. — II. Value and the social point of view, 294. — Relativity of value, 296. — Relation to exchange, 297. — Determination of value, 299. — Market *v.* normal value, 303. — Elasticity of demand, 305. — III. Wealth and the social point of view, 306. — The definition of wealth, 308. — IV. Production and capital from the social point of view, 310. — The individualist's concept of production, 311. — False assumptions concerning society, 312. — The "entrepreneur viewpoint," 314. — The technological basis of production, 316. — V. The scientific character of the social-individual point of view, 319.

IN the preceding article I raised the question, What is meant by "the social point of view"? The answer was far from simple. Four main concepts of society confront one, with various sub-varieties; while, whatever concept of society is taken, one can look at things either through the eyes of an individual member of that society or from the standpoint of the society as a whole. If one takes the standpoint of society as a whole, one's "social point of view" depends upon whether society is considered as a sum of mechanically related individual atoms, or as an organism dominating the parts, or as a more or less consciously coöperating group of interdependent individuals. In a similar way, if one's "social point of view" be taken to mean that of an individual in his relation to society, it will be very different in case the individual is a self-determined atom, a dependent organ, or a mutually determining and determined member, — independent and dependent. I reached the conclusion that the last is the true concept of

society, and that the most expedient application of this concept is to take the angle of vision of an individual who is a true part of society so conceived. Thus I arrived at the "social-individual point of view."

I. "PUBLIC" *v.* "SOCIAL"

Before taking up the proper burden of this second article, one point must at least be touched upon that might well have been discussed before. This is the relationship between the "public" and the "social" points of view. Now, the meaning of the former lies in the mind of the thinker, but generally the "public point of view" means the point of view of the people of a government, — a nation or other political unit. As everyone knows, a government or a nation is not the same as a society, nor is it so fundamental. To bring out the difference in a concrete way, take the concepts of "public wealth" and "social wealth." By the former expression, the wealth of a government is generally meant, — "public property." The idea of ownership by the collective body of the people of a political group is conveyed. Even if used more broadly, it must mean the wealth of the people of a government. By "social wealth," however, we mean all wealth that is consistent with society, and include part of "private wealth" as well as "public wealth." A more real and living — tho less tangible — relationship forms the basis of society. Society and individual are one in a sense that cannot obtain in government, — unless government and society coincide. Perhaps public *v.* private should be the main line of division in "Political Economy" and "*Nationaloekonomie*"; but for the science of economics the distinction between social and individual is more important.

In the following pages, the attempt will be made to make some consistent and practical application of this point of view. It will be applied to some of the chief economic concepts, — value, wealth, capital, etc., — with the purpose of arriving at definitions rationally based and consistently applicable, for such definitions are now all too rare. Incidentally some criticism must be passed upon ideas which the conclusions of this study would supersede.

II. VALUE AND THE SOCIAL POINT OF VIEW

First, it may be well to take up the most important economic concept, value. The most obvious question is, What is value? And here, at the very threshold of the analysis one meets the confusion that comes when scientists proceed from different points of view without appreciating the difference. After more than a century of thought and discussion, economists do not agree as to what value is.

The only point of difference I will mention here concerns the relativity of economic value. While a majority of English speaking economists have thought of value as a relative thing or ratio, there are those who consider it to be an absolute thing or positive quantity. For example, a recent writer states the case as follows: —

The doctrine of relativity has characterized the teachings of the English School, of the Austrian (except Wieser), and of many of the more eclectic followers of each in this country. It will appear later that this relative conception follows naturally from their individualistic method of approaching the subject. The essence of the relative conception of value . . . comes out in the statement . . . that, while there can be a general rise or fall of *prices*, there cannot be a general rise or fall of *values*. . . . Vastly more than terminology and definition is involved. Is value a quantity or a relation? Is value a thing which determines causally exchange relations, or is

value determined causally by them? To the writer, the former conception seems a logical necessity. Value as merely relative is a thing hanging in the air.¹

In one thing this statement is clearly correct, namely the fact that the difference finds its origin in the distinction between individualism and societism. But the writer quoted seems not to appreciate that he himself, as a societist of that extreme type which regards society as an organism,² may be swinging too far in an opposition to individualism.

Is the logic of the case not as follows? Society, when considered as an organism, would not be concerned with voluntary and self-initiated exchanges among the individuals (?) who compose it. The idea of motivation in an exchange relation, therefore, would not be essential; and, as a result, to the organismic thinker value appears to exist apart from and prior to exchange. It appears to be in a sense absolute. It is thought of as an independent quantity.³ On the other hand, the individualistic thinker centers his attention upon the relations that arise among freely exchanging independent individuals, and the result is that he deals primarily with exchange values which he considers as entirely relative, — as ratios. The motivation lies entirely in the comparison of net utilities involved in an exchange relation.

But if neither of these points of view can give the truth, and the social-individual standpoint can, let us apply it, to discover the error and the truth. In the first place, individuals are in fact concerned, and anything that will normally motivate economic activity on their part may be considered. They are concerned with exchanges among themselves, in which the relative importance of the things exchanged is the deciding

¹ Anderson, *Social Value*, pp. 17-18.

² See the preceding article, in this Journal, Nov., 1913, p. 124.

factor. This the extreme societist will not see. In the second place, as *social* individuals they appreciate somewhat their interdependence as exchanger and exchangee. In any event, the economist must see that their feelings and desires are in part molded by common experiences and customs, and by imitation, — in short, by social relationships. This the individualist forgets. The conclusion, then, is that values are relative, but that the relativity is not the relativity of unrelated or independent parts. It is a social relativity.

The writer cannot escape the conclusion that in the very nature of things all "values" are essentially relative. In the field of ethics is this not the case? Right and wrong (ethical values) are involved only when a choice between courses of action is presented, and no absolute quantity of right or wrong exists. So in economics it is not until a choice is presented that one values things. If a good is free, the issue is not presented. If it has absolute utility there is no choice. Between these extremes lies the range of valuations. Furthermore, it appears that the comparison must lie between qualitatively different things or acts. Marginal utility is not value, because there is no choice, but merely a necessary degree of utility fixed by the number of units of a single kind of good. But if comparison of marginal utilities of different goods arises, then we at once enter the realm of value.

This leads to two further criticisms of the organismic thinker's position on value. First, he confuses subjective with objective value; second, he confuses exchange with the conditions that cause exchange. He says that many economists have thought that value is caused by exchange and determined by exchange; and he proceeds to argue that the amount of value is not determined by the particular exchange ratio, and is not

changed every time a new comparison is made.¹ (I believe that no economist ever thought value to be caused by exchange and probably few have thought it determined by exchange, — if for no other reason than that they have made no such distinction. They have often taken the cause for granted, and have proceeded on the correct idea that the conditions that cause exchange are related to those that cause value.)

Roughly, the process of value causation is this. Taking his emotional-volitional state for granted, the individual having a want perceives an object, feels his dependence upon it for the gratification of that want, and imputes utility to the object. More or less consciously, he directs effort towards securing the object and in doing so feels or perceives the limitations of supply. His want thus becomes a desire, and he imputes a degree of utility to a unit of the object. This measures its subjective "worth" to him. Meanwhile, other objects with other degrees of utility have entered his consciousness, and he *cannot escape* a choice and a comparison of their marginal utilities. As a result, he ranges them in a scale, — he values them. But as yet this is all subjective. Now, when he comes into contact with other individuals he finds different subjective worths or degrees of utility imputed to the same objects; but, more than this, he finds these objects are ranged differently in the value scales of other individuals, and in this fact lies the immediate cause of exchange. When the potential advantage of exchange is realized, — and the individual is to that extent socialized — the exchange occurs, and in the process objective value is imputed to the goods concerned as the quality or power of commanding other goods in exchange. Thus, exchange is caused by a realization of differences in sub-

¹ Anderson, above cited, pp. 23-24.

jective values (relative). Exchange value (objective) is caused by the existence of the same differences, but only emerges and becomes determinate in exchange. It is, therefore, equally wrong to say that value is determined by exchange and that value determines exchange; tho the latter is more suggestive of the truth. Value is caused and determined by the conditions that determine the exchange. It emerges in exchange and measures the rate of exchange.

In his natural desire to reach an absolute value, the organismic thinker is prone to confuse utility and value, and to be content with subjective value. Thus, all through the work referred to, statements are made and objections raised concerning what is called "value," but which is really "marginal utility." Thus the author says: "Gold and milk must be, then, commensurable quantities, *i. e.*, must have a common *quality*, present in each in definite quantitative degree, before comparison is possible, or a ratio can emerge. This quality is *value*."¹ This is unexceptionable till we come to the *saltus* by which it is concluded that the quantitative quality is "value." If the vast majority of economists use the term value differently, is it not daring to say that what they call marginal utility shall be called value? Yet that is what the statement just quoted amounts to; for most economists have long agreed that the commensurable quantitative concepts are marginal utilities, but that "values" are relative. No one says — as Professor Anderson seems to think — that value (objective) is a ratio the terms of which are *value* (objective), and just as quantity and mass are the *terms* of weight, so utility and scarcity are the terms of value.²

¹ Anderson, *Social Value*, p. 21. The italics are Professor Anderson's.

² Cf. *ibid.*, p. 22. Professor Anderson certainly does a great service in revising our concept of utility and its relation to value, but his work as a whole is vitiated to no small extent by setting up a man of straw, in the shape of value, which is really not value. Upon this straw man he wastes too large a part of his acute criticism.

The analogy with weight, indeed, serves to illustrate the relativity of value and the difference between objective value and subjective value. In weighing, we have the pound weight and the thing weighed, — two different things, but both acted upon by the force of gravity (whatever that may be !). What we seek is a relation between the two. The weight of the thing weighed is this relation, is it not ? If it weighs 2 lbs. it is related to the 1 lb. weight as 2 is to 1. "But," you exclaim, "Why ? Is it not because it has an absolute weight of 2 lbs. ?" The answer must be; No; both weight and thing "weighed" have mass which is acted on by gravity. They are *heavy* — that is all. But weight, as a quasi-value concept, means a relation between the two. Heaviness is like utility; weight is like value.

If economists have differed in their ideas concerning what value is, it goes without saying that their treatment of the determination of value has not been uniform. A marked point of difference, and an occasion of no little inconsistency, appears on the question of the independence of values and prices, that is, the question, Do prices react upon demand and supply in such a way as to make it impossible to say that demand and supply determine value ? This question is also connected with a lack of clarity in the distinction made between normal value and market value. Here, again, it is the writer's conclusion that the trouble lies ultimately in a failure clearly to distinguish between social and individual points of view; and that the remedy is to be found in the clear-cut application of the social-individual concept.

The problem of value as dealt with in economics is a social problem in the sense that values are objective facts which occur in society. There are, however, at

least two extreme and erroneous ways of approaching the problem. The one, starting with the individual, may be called the lonely-individual method; the other, starting with society may be designated as the lost-individual method. The one way, as it were, begins by analyzing society into separate individuals; the other by fusing individuals into society. The one, as we will see, leads to value-determined values; the other to non-measurable absolute values. The explanation is as follows. In beginning with an assumption of a society in which the individuals are lost in and subordinated to an organic entity, a situation is established which has already been pretty clearly indicated. One great unit dominates the valuation process; values are absolute, and are not really expressed in objective exchange value; to the individual they must seem fixed things, made above and in spite of his will. Thus, from the point of view of an individual who is conceived of as a part of an organic society, value (social) determines value (individual). This method of approach, however, has neither been so fully worked out nor so commonly adopted as the individualistic method. In beginning with unrelated individuals, the individual appears as a lonely non-social fragment, acting freely and higgling with other individuals in much the same way that a steer in a herd of stampeded cattle struggles to get on. He does not appreciate the reciprocity of exchange, nor the fact that both parties to an exchange must normally gain or exchange will decline. It is therefore impossible to get the causes of value, for there is no way correctly to put the unrelated individual valuations together to comprise the whole situation.

To the lonely individual, as to the member of an organic society, values (as expressed in prices) appear to be fixed facts with no relation to his own subjective

states of consciousness, whether of utility or sacrifice. His subjective values appear to cut no figure in the situation. He merely buys or sells different physical quantities of this or that material according as "the market" registers a low or high value. Values are *merely* relative, for the interrelations of causal forces are unseen. Exchange seems to be an ultimate thing.

To make the situation, to which this way of approaching the value problem leads, clear, we must observe the assumptions concerning "demand" and "supply" that it involves. We find that by demand is meant quantity demanded at a given price. Price (expressing exchange value) is the determining factor, and demand appears in the shape of quantity of commodities or services, — bushels, bales, tons. The amount of this "demand" is determined by an adjustment of individual demands to a somehow existing market price. The "demand curve" is traced by a series of points which express a relation between price and quantity. On the other hand, "supply" is taken to mean quantity put on the market at a given price. This, too, is determined by price; and the "supply curve" is formed by a series of points which express the relation between price and quantity as formed in the minds of individual sellers. Thus the final upshot is an arithmetic ratio between quantities, and we get an "equation of supply and demand." But why is there any equation at all? Why any price? The question of causation and ultimate determination remain to be answered.

This question leads to an examination of the problem upon the assumption of a conscious-commonness society, when we logically take the social-individual point of view. This way of approaching the value problem is quite different from the preceding. The individual, instead of being lonely or lost, — instead of

being an unrelated and externally determined unit in a mechanical mass of individuals, — is one of an interrelated, mutually determining group. To him, goods and services have certain subjective values based on utility and scarcity, and he acts in accordance with those subjective values. As a result, value is not a fixed environmental fact, but is one which his estimates have had a share in making. The several valuations of the individuals in the group concerned are, as it were, fused, — socialized. Tho *to the individual* it seems that values are determined by forces other than individual valuations, the truth is that they are determined by the valuations of himself and other individuals.

Looking at value in this way, demand is taken to express the totality of the situation presented by the fact that there is a group of individuals who have desires, which, while interrelated in complex ways, differ in intensity and effectiveness.¹ It is based, not on price, but upon desire as modified by purchasing power and volition; and it depends chiefly upon the intensity of desires and amount of purchasing power. Accordingly, the demand curve is determined by points which express a relation between utilities and quantities of material units, *i. e.*, the curve is composed of subjective values. Marshall's term, "demand prices," may be used to designate them. Similarly, supply is that totality of situation presented by a group of different sellers' estimates, or "supply prices." Both demand and supply are independent of price and rest upon fundamental individual values.

Value, then, is determined by demand and supply, — not supply and demand by value, — in that the contemporaneous existence of demanders and suppliers enables us to construct social scales of "demand prices"

¹ The wealth-distribution complication may be ignored for present purposes.

and "supply prices" that are based upon the more ultimate utility and disutility factors.

It will be observed that these schedules or curves of buyers' and sellers' estimates, if true, involve the idea of the social-individual. *The addition of individual buyers and sellers at any point affects the whole situation, no matter how slightly.* All are interdependent, — not atoms.

We are now in a position to answer the queries that arose at the conclusion of the paragraph on value determination from the individualistic point of view. The reason back of market "equations" would appear to be the existence of values which are caused in the way just outlined. Individuals buy on the market when prices are low *because* their individual demand prices are higher than those of the marginal buyers and sellers at the time being. In other words, low prices are prices that are low relatively to normal prices as determined by ultimate demand and supply forces.

The distinction between normal and market values has become entangled with this question of individual and social value, and very frequently one finds that market value is more or less consciously associated with the individualistic point of view. It is in the determination of market value that the circular reasoning which insists that values must be considered in determining values is most often met.¹ Indeed, it is only here that this doctrine is plausible; the reason, as already noted, being that *to the individual* market prices seem to be determined by forces other than individual

¹ In Professor Irving Fisher's *Elementary Principles of Economics*, which recently reached the writer, he finds the first clear statement of the difference between market demand and what Fisher calls "schedule demand" that he has seen. Fisher's treatment, which is similar to the one used by the writer in his classes for several years, should be generally adopted. Already Professor Davenport has followed him (*Economics of Enterprise*, p. 49, note). Of course Professor Marshall long ago prepared the way for improved analysis.

valuations, and market fluctuations seem to be due to super-individual conditions. Is it not a relic of individualistic economic thought that leads us to take market prices for granted in discussing the determination of those prices? The real distinction between normal and market value is that the latter is not based upon ultimate forces, and consequently is a point of but temporary equilibrium. The question of ultimate causation is not raised when such market forces as manipulation, port receipts, ginning statistics for the month, etc., are spoken of. The totality of supply and demand conditions is forgotten and attention is fixed upon immediate conditions. It is as if the gaze were centered upon the immediate locality of the intersection of the supply and demand curves, with no regard for the paths by which those curves came to the crossing. The individual buyer is thought of as looking at the price fixed for the marginal pair, and saying, "*At that price, I'll buy 1000 bales*"; and it is forgotten that his demand price for 1000 bales, being higher than the price, was influential in determining the intersection of the curves. When A says he will buy 1000 bales at ten cents, he means that *if* prices should drop to ten cents, they would coincide with his demand price for that quantity. He would then buy because his demand price is no less than sellers' supply prices, not because the price is ten cents. In a similar way, the individual producer who takes price into consideration in putting his goods on the market is merely comparing his individual supply price with the marginal supply price. And all the time price is what it is because the schedules of buyers' and sellers' money estimates (social-individual demand and supply schedules) come to an equilibrium indicating the maximum number of exchanges to be available at that price. Inasmuch as we are not

concerned with ultimate causes when we are discussing so-called market values, it is not impossible to regard the existing price situation as an immediate factor in the determination of ensuing prices. The results will not be incorrect; for we are analyzing correctly what has been built up, and if we work accurately we reach the same destination by the back door. My point is that in so doing we are constructing our demand and supply curves as if the various individual estimates of which they are composed were isolated, and that we are thus reaching no ultimate explanation of value determination.

A clear manifestation of this confusion may be found in the treatment of elasticity of demand. Consistently enough, those writers who take the individual point of view define elasticity in terms of price, calling a demand (quantity demanded) elastic which varies sharply with change in price.¹ On the other hand, some few have seen that the truer concept of elasticity is to be based upon a price-determining factor, supply, and have defined an elastic demand (scale of demand prices) as one in which demand prices vary little with changes in quantity supplied.² This definition has been substituted for the less fundamental one by the writer in his teaching with good results on the score of consistency in analysis. Only in this way can the well-known phenomena of elasticity be used in explaining the ultimate determination of demand and value.

Other points might be made concerning value, but the foregoing will suffice. We have found that, when consistently analyzed from a correct point of view, (1)

¹ Taussig, Ely, Seager, Fisher.

² Taussig (?), Chapman; e. g., Chapman says: "We say that demand is highly elastic if demand price falls very little as consumption is increased." *Outlines of Political Economy*, p. 40. Professor Taussig uses elasticity in both senses without noting any difference. *Principles*, I, 141.

value is relative, being determined by a comparison between the subjective values of things exchanged, but the subjective values are themselves interrelated through the fact that the individuals concerned are parts of the same society. (2) Value is neither determined by exchange nor does it determine exchange in any sense: it measures and expresses an exchange relationship and is determined by the same forces that determine the exchange. (3) Value is not determined by prices either wholly or in part. (4) Market value does not differ from normal value in the kind of forces which determine it, but merely in the breadth of the field and length of time the forces are allowed to work.

III. WEALTH AND THE SOCIAL POINT OF VIEW

All will agree that wealth is the embodiment of economic value. Unembodied values can have no part in the foundation of a science, and consequently economists have striven to gain a material that expresses the quality with which they are concerned in such a shape that it can be worked after the fashion of science. This, I take it, is the significance of specifying "vendible commodities," durable goods, and the like. But, while agreeing that wealth has value, economists have differed (1) in their definitions of value, and (2) in their ideas as to what valuable things it is expedient to include under the wealth concept. In reaching a conclusion concerning the nature of value, therefore, we have gone half the distance necessary to reach a basis of agreement concerning wealth. We must next attempt to determine the true scope of the term "wealth."

In defining wealth it would seem that two broad tests are to be applied: first, is the thing the object of human activity? second, is it measurable? Unless a good is

capable of becoming a motivating element in human choices, and unless its motivating power be measured, it cannot serve us as the material for a science. These two tests we will call the motivation test and the measurability test. Let us apply them.

On the score of motivation, the extreme points of view can be disposed of in a decisive fashion. To the lonely individual anything would seem wealth that would further his separate interests. He is to be thought of as set apart from his fellows and acting without regard to their interests either consciously or unconsciously. Thus, things injurious to them would be included. But such wealth could not be generalized: it would be self-destroying. Moreover, such lonely individuals are not normal, and, as shown in the preceding article, the real individual can only be motivated by the same things that motivate his fellows. So it is with measurement. Lonely individuals do not exchange. Anti-social persons do not proceed in such a way as to balance utilities. Consequently, no economic scales could exist, and there could be no measuring.

From the organismic point of view, the individual is lost. Society being set over the individual, non-individual motives are appealed to, such as altruism,—a procedure which is not only impracticable, but inconsistent in that it appeals to individuals who are supposed to be lost. As to measurement, we find that society is regarded as a unit, so that no free exchange between individuals can exist. Therefore, wealth would not necessarily be exchangeable and consequently not measurable. As a result, we find thinkers who take this point of view including all manner of non-exchangeable things, such as personal qualities, on the ill-defined basis of general usefulness to society. And in accord

with this idea an ethical element is allowed; for if exchangeability and measurability are not required, why not consider well-being and right?

One can hardly escape the conclusion that neither one of these extreme views can serve in a science of economics. Fortunately neither is true, but there is a truth. This truth lies in a motivation that is neither purely individual nor purely non-individual, and one that allows a measurement objectively in society. We must start with the individual; for he alone feels and estimates, and the thing must arouse his activities. But we must put him in society; for individual feelings and estimations are at least modified by custom and imitation, and wants for power and esteem are important motives. We recognize that only individuals desire wealth, but that real individuals are social individuals. We see that in real society wealth must normally be exchangeable on some non-arbitrary basis and not either on the basis of fraud and violence or on the basis of government determination. Thus we are again led to take the social-individual point of view.

In applying this true point of view, it becomes essential to ascertain what the scope of wealth is according to it. To this end, we note that the social individual's economic activity has several phases: he is normally producer, exchanger, sharer in distribution, and consumer. Accordingly, wealth must appeal to him in all these capacities if the science is to be well coördinated. It follows that wealth must have at least four qualities:

- | | | |
|--------------------------|------------------|---------------|
| 1. Utility | for consumption | } value. |
| 2. Scarcity | for production | |
| 3. Transferability . . . | for exchange | } durability. |
| 4. Appropriability . . . | for distribution | |

These four qualities condense into two: value and durability. Thus we arrive at a familiar doctrine, the con-

tribution that is here suggested being that it is reached in a systematic way, and placed upon a scientific basis.

Wealth, so conceived, is both broader and narrower than the individualist's concept. It is broader in that it includes items that are appreciated only in social relations, for such relations involve longer periods of time and wider areas of space than appeal to the mere individual. Things become motives in exchange relation that would not be such to lonely individuals, such as things calculated to win the esteem of one's fellows. It is narrower, however, in that some things are inimical to the broader relations of time and space required by truth, that is, it is somewhat limited by the necessary economy, laws, and morals of society. Even Ricardo wrote: —

"It is true that the man in possession of a scarce commodity is richer if by means of it he can command more of the necessities and enjoyments of human life; but as the general stock out of which each man's riches are drawn is diminished in quantity by all that any individual takes from it, other men's shares must necessarily be reduced in proportion as this favored individual is able to appropriate a greater quantity himself."¹

Thus he shows an imperfect realization of part of the idea; the passage intimates that what decreases the ability of others to exchange must in the end react upon the possessor. As men become more civilized they will become more conscious of common interests with their fellows, with the result that they will consider in making their valuations more remote ends and exclude predatory and wasteful agencies.

If we may attempt a definition at this point, it may be said that wealth, as the term is used in economics, means those transferable and appropriable utilities that are valued by men among whom exchange is either free

¹ *Principles of Political Economy*, Chap. xx (2d ed., p. 344).

or regulated by common consent. That exchange shall be free, — shall be real “exchange,” — men must live in accord with the laws and morals of a society, and must act so as to preserve that society. Consciously or unconsciously they must be coöperating.

Several objections at once occur to one. Does this not introduce an ethical and unscientific element? In the first place, it seems to the writer that nothing can be truly scientific that is not true; and if it be true that society and individual are as portrayed, then wealth must be as defined. But more than this, the definition does not make ethical considerations a part of the criteria, but rather it sets up an objective limitation of the field in which the criteria of the definition are to be applied. That which wastes the assets of the group does in fact affect each individual, and those laws and morals which so approve themselves to the common sense of a community as to be generally accepted and binding are objective facts which do in *fact* limit the field of choice.

IV. PRODUCTION AND CAPITAL FROM THE SOCIAL POINT OF VIEW

In the first part of this article, we were chiefly concerned with the organismic concept of value, and the positive significance of the social side of the social-individual point of view was under fire. In the present concluding section, however, the individual aspect will be more directly the object of analysis, and we will be examining the other extreme, — the individualistic way of looking at economic phenomena. It happens that one of the most clear-cut cases of the application of the lonely-individual point of view is to be found in the field of production, the factor of production, capital,

being the center of discussion. It is logical enough to pass from the concept of wealth to capital, for capital is regarded by all as a part of wealth, and owes its existence and value to its power to help produce wealth (including services). Capital being a produced instrument of production, the concept of capital shares in the difficulties of the wealth concept — in a reflected way — and of the production concept.

The writer's conception of the social-individual first came to a head upon reading a brilliant article from the pen of Professor H. J. Davenport,¹ on "Social Productivity *v.* Private Acquisition." Its general thesis may be stated to have been that in economic analysis society and the social point of view count for nothing, the individual for everything. I soon came to the conclusion that this thesis was not sustained, and in formulating my reasons the truth as presented in these papers became clear. It is Professor Davenport's service that he frankly and fearlessly raises the issue between social and individual points of view as held loosely and inconsistently by many economists, and pushes on from the latter point of view to — the bitter end.² I can think of no better way conclusively to show the truth of the social-individual point of view than to point out the error in his conclusions.

If Professor Davenport may hereafter be referred to as "the individualist," it seems fair to state that the following assumptions appear as the premises of the individualist's reasoning: (1) Anything that ever changes hands between two individuals, and by which one individual gains — is "marketable at a price" — is wealth, whatever the circumstances. (2) Any activ-

¹ In this Journal, vol. xxv, p. 96 (Nov., 1910).

² Sometimes I have wondered if Professor Davenport did not intend his article as a witty *reductio ad absurdum* by which he hoped at last to awaken economists to the baseness and inconsistency of their point of view.

ity that results in securing an income for any individual, whatever the method, is production. (3) Any item of wealth that aids an individual in production so conceived, is capital. (4) To regard wealth, production, and capital in this way makes it unnecessary, unscientific, and impossible to take society into consideration as a determinative factor.

The fairness of this statement of the premises and the error of the conclusions drawn from them will appear from the following analysis of the individualist's reasoning.

We are told that "the test of economic productivity in a competitive society is the fact of private gain, irrespective of any ethical criteria and *unconcerned with any social accountancy*"; and that "neither ethical nor social standards are theoretically decisive, or even relevant, for the question of value and marketability and economic productivity."¹ "The test of social welfare is invalid to stamp as unproductive any form of wealth": jimmies being capital, burglary is productive (*sic*). In the assumed competitive regime, monopoly is capital. "Lobbyists, panderers, and abortionists are producers." "But parasitism is not a competitive category," and so is ruled out.

In the first place, what sort of a society, after all, is this "competitive society" so much assumed? Does it mean a society in which each individual is an independent atom, unrelated in its position to others? A society in which the consciousness of each individual is independent and unaffected by any commonness of content with the consciousness of his fellow individuals? One in which imitation plays no part and custom is absent? One in which no one knows that if the other fellow is defrauded, that other fellow will come back at

¹ Davenport, *Social Productivity*, cited above, p. 113. The italics are mine.

him? In which no one is so intelligent as to realize that by coöperation bigger gains can be secured for all? So it would seem; for under what other assumption could robbery, arson, libel, adulteration be thought of as production? And what a travesty on society! Such an aggregate would be no society, "competitive" or otherwise. If the "facts" which are to demolish the old doctrines are drawn from such a "society" they certainly are "pitiless."

The individualist is inevitably forced into inconsistencies by his pitiless facts. Thus, he bases the productivity of prostitutes, libel writers, lawyers, and fire-bugs upon the assumption that they "do things that men are content to pay for." But it is a pitiless fact that men in society cannot be content to pay for libel and arson. True, in abnormal cases, men may hire others to do these things, and achieve their ends without getting caught; but the law is a fact, is it not? Moreover, what happens if we generalize? Suppose all the individuals in the group were to engage in such "gainful" activities; would the situation not speedily become impossible? The pitiless fact is that gains must come from somewhere. Just as surely as that gains would cease if everybody should quit producing in the good old sense and begin acquiring gain by sinking spies and lobbying, so surely are gains (and individualistic "productivity") reduced by the fact that some people do these things. The anti-social individual cannot be paid out of product without diminishing the total of products and so decreasing the contentment of men to pay for their services.

Perhaps it is some such reflection as the foregoing that leads the individualist to admit that "parasitism" is irrelevant to "competitive doctrine," even while his doctrine is all "competitive" and half his producers live off others.

Good.

All this is the result to which the individualist's unconcern for social accounting leads. The fact is that individual and society cannot be separated and a true situation remain, and no more can the individual and the social points of view. To deny any importance to society in determining values is virtually to deny the existence of the individual. A recognition of the individual point of view, so far from making impossible a social point of view, makes it necessary.¹

From the unsocial reckoning of the lonely individual, proceeds the "entrepreneur point of view" so stressed in the individualist's thought. Thus he would say that everything which, from the entrepreneur point of view, appears as expedient expenditure for the purposes of creating a situation in the market is an outlay of capital which takes rank as a cost of production, — buying city councils, bribing government tariff officials, stifling competition. All these things get into costs in the actual production of commodities, we are told. But let us examine these ideas closely.

In the first place, the brand of entrepreneur assumed is an abnormal and special kind of entrepreneur, and one whom the pitiless logic of law and public opinion is constantly weeding out. He could not be generalized and exist; for he is a parasite, and so, according to the individualist's own reckoning, need not be counted.

In the second place, the question as to *why anything seems expedient* to even such a dubious person is begged. Of course the economists, whom the radical individualist would discredit, would explain that the expediency lies in the fact that, on the one hand, a group of consumers somewhere derive such want gratification from

¹ Professor Davenport says, "That a complete acceptance of this private and acquisitive point of view is the only procedure possible, in the analysis and classification of the phenomena of a society organised upon lines of individual activity for private gain, is abundantly proved as soon as appeal is made to the facts and the processes of the actual business world" (p. 114).

the commodity concerned that they are willing to pay for it; while, on the other hand, the entrepreneur is able to find men who will accept, as compensation for labor and sacrifice in making that same good or rendering the service, something less than the consumers pay. And any question of relative expediency or opportunity is decided by the amount of the margin between income (resting on utility) and expense (resting on scarcity).¹ Just as we found that the lonely individual who is assumed to help in the determination of values by means of values, is a myth born of ultra-individualistic assumptions, so here the lonely entrepreneur individual who is supposed to accept market situations without regard to his fellows is also a myth. The individualist virtually argues that profits determine profits when he says that opportunity for gains, capitalized, is the source of profits. We may grant that it *seems* to the entrepreneur — just as it seemed to the individual seller or buyer — that the existing profit situation is a fixed and determining fact; but this is only superficial and seeming — nothing but lonely individualism. If expediency is to depend upon the sale at a profit of some good to consumers it must posit a demand scale as indicated in the discussion of value, and we at once find ourselves in a complex of interrelated valuations which is inexplicable outside of a group of social individuals.

In the third place, what is cost? In economic questions it is ever the function that decides. So here, — assuming a “competitive reckoning,” — costs are practically all human exertions that limit the supply of economic utilities. The only justification of cost is the fact that it limits human exertion in production and

¹ For a critical examination of the individualistic “opportunity-cost” doctrine see my article entitled “Opportunity Cost,” in *American Economic Review*, Vol. 4, pp. 590 ff.

consequently supply. This is merely a question of fact. Now, suppose that an entrepreneur indulges in a little spice sinking, is his exertion cost? The ultra-individualist says yes; I say no. So far, so good. Let us reason out the matter. Has utility been increased? Plainly not, for part now lies at the bottom of the sea. Thus the very basis of production is lacking. "But," he retorts, "the remaining spice sells for a larger sum." Why, I ask. It is scarce, comes the reply. Why, I ask again. Answer: there is a monopoly. So all this fuss is made over a case of monopoly, where a supply fixed at the will of the monopolist is assumed at the start and the marginal demand price is necessarily the determining element. It is a case of monopoly, when we were told that the analysis was to be competitive. Surely enough is said when we note that all the instances of alleged entrepreneur costs are either (1) on a monopolistic basis, or (2) crimes, or (3) frauds. Plain unvarnished pandering is the only exception.

This brings up the question of the necessity of the technological conception of production and capital. The individualist, *by taking values and profits for granted*, is able to convince himself that any increment in value or profits is a source of increased value or profit, respectively, and consequently does not see the need of any technological productivity. His case may be gathered from the following reasoning. He says that the entrepreneur (the significance of whose views we have already noted) would be surprised if he were told that his capital is composed of capital goods like buildings, materials, and machinery. He would include securities, bills receivable, cash, franchise rights, monopoly, government favors, and land. One notes immediately that, in so far as these items are not included under the social view, they are mostly either things whose values are

price-determined or things which are merely representative of capital goods. Franchises and land come in the former class; securities and bills receivable, in the latter. The entrepreneur is more than "perplexed" when both the properties upon which the securities are based and the securities themselves are subjected to taxation!

Not content with setting up these specious cases of alleged non-technological capital, the individualist revives the wine and tree problems of the days of James Mill, in an attempt to show that certain things classed as capital even by economists have no technological significance. For example, he says that ice in an ice house is not a factor of production in an "industrial sense," and is capital merely because it is being held as a source of income. We may agree that the ice is capital, but why? (1) Because men worked and saved to put it in the ice house; (2) because other men will demand it in the summer. Of course the ice is decreasing in weight, but that is a technological incident to an increase in utility, the point being that it does not decrease as fast as it would outside the ice house. It is one aspect of the cost to the capitalist. The mere holding for increment of gain is nothing causal. Whence the gain? From a surplus of income (utility-based) over expense (cost-scarcity-based).

The social individual would see that the gain is not to be taken for granted, and that consequently he must normally engage in such activities as will yield things that other individuals are willing to pay for. As in each case, we will find that this way of looking at things takes us at once to the truth. In the last analysis, there can be no production in the economic sense without "making" something that appeals to the senses or through the senses of individuals. In order so to appeal, there must be some effect in the nature of a re-

adjustment in the materials of nature, whether it be in space (changing geographical location or form), or time (maintaining bodies intact). Only in this way can the senses be affected and economic utility exist. Any agency or instrument that enables man to make these readjustments more easily and quickly, therefore, has potentialities for production, in that it can increase things which may have utility. Very briefly this is the individual side of the social-individual analysis of production and capital, and on this side lies the foundation of the technological concept of capital.

But it remains to demonstrate why the potentialities just indicated become realized in utilities and values; and to do this we find it necessary to put our individual in a real society. There we find that he becomes dependent upon the wants of fellow individuals for his gain. He must exchange with them and, as Adam Smith shrewdly observed, he cannot count on their benevolence. He must therefore choose only those means of making readjustments in the materials of nature that will create such utilities as he can exchange. In the exchange, values emerge. Thus, we find in the two simple principles (1) necessity of sensation as a means of economic utility and (2) self-interest guidance of the activities of normal individuals, the basis of the technological concept of capital.

The gist of the foregoing points may be summed up as follows. (1) There is practically no production or capital without exchange; and exchange can be truly understood only in a true society in which individuals are not entirely lonely, but act and react upon one another so as to make the one out of the many — without losing the one. (2) Human activities and agencies are divided into two great groups, the social and the anti-social, or “predatory”; while the social may be sub-

divided into the positive-social and the negative-social, or "acquisitive."¹ (3) The necessity of society and the true nature of social relations make predatory activities and agencies unproductive in a true and scientific sense. (4) The "entrepreneur viewpoint" when in conflict with the social-individual point of view is unsound; for: (a) the entrepreneur also depends upon society, (b) and his "lonely" estimates are mere seemings of no causal significance. (5) The significance of costs in economics is that they (a) function in production and (b) limit supply; but "entrepreneur costs," so-called, have no such significance. (6) The technological concept of production and capital cannot be abandoned, because *utility* depends upon adjustments in materials; but values in society direct the technological process.²

V. THE SCIENTIFIC CHARACTER OF THE SOCIAL-INDIVIDUAL POINT OF VIEW

Finally, we must consider the question, Is the social point of view so full of ethics and optimism and unreality that it cannot be used for scientific purposes? It may be granted at once, that, if the individual is to be thought of as an unsocial or lonely individual, he will necessarily regard the interests of society as separate from and often clashing with his own, with the consequence that, for him, to take the social point of view would involve an ethical choice. But a true social point of view, being based upon a true concept of society, is not that of such an individual, and consequently loses its ethical character. It merely begs the question

¹ Anti-social activities may be divided into the merely "parasitic" and the destructive.

² This conclusion does not lead us to materialism, for utility is the decisive thing, and not all adjustments have utility. Utility sanctions costs. The old ideas on this subject need correction, but not the extreme reaction to the subjective or the unsubstantial.

to link "social" with "wholesome," "deserving," "welfare," "duty." The social point of view, as I have taken it, does not concern what ought to be. It merely stands for a fact, the fact that individuals lose significance apart from society. It is based on what individuals do, not on what they should do.

So it is with optimism. To be sure, the social individual need not, like the lonely individual, be a pessimist; but that fact no more makes him an optimist than it makes one jubilant not to be miserable. It is the individual who is lost in the social organism who is optimistic! But the question is asked, do economists who profess the social point of view not consider that all gainful occupations are socially productive, else they could not normally be privately gainful? And is this not optimism? In answer, it is to be explained that only *socially* gainful occupations would be held to be socially productive (in the sense indicated on a preceding page); and that the word "normally" makes a great difference. What could not exist in the long run, and is *tending* to cease to exist, may nevertheless exist at any given time. The fact is that the social point of view of a social-individual leads neither to optimism nor to pessimism, for it proceeds from a recognition of the interrelation of individual interests, — interests which are different, but coördinate.

After this extended discussion, I cannot believe it necessary to devote much space to proving the unreality of any other than the social point of view as truly interpreted. Society is as real as the individual, — and, of course, no more real. This being the case, it is as unreal as anything imaginable to overlook the following facts: To rob is to take without giving, and cannot persist in a competitive exchange economy. To burn cotton or sink spices means wasted utilities and dimin-

ished product. To tax both farms and factories, on the one hand, and mortgages and bonds, on the other hand, is double taxation. To own real estate is a very different matter from owning any kind of (other ?) capital. To hold special privileges by graft is more precarious than to hold land. To be a prostitute may be productive; to be a beggar, however, is non-productive; while to be a thief or incendiary is predatory and destructive. The reality of these things is overlooked by the adherents of the lonely-individual point of view, not by economists who have recognized the importance of society.

In order to have a science we must have measurable quantities. In order to measure we must compare, which, in economics, means free exchange. Thus, we get objective values. But exchange values are only possible in society, and society has been proved to be an interdependent group of individuals. Therefore, the social point of view must be taken if we are to have a science. *Economics as a science of scarcity values is based upon a social point of view, made true to life by recognizing its expression in individual valuations and activities.* The social point of view means, not ethics, not art, not utopian hypotheses, but, on the contrary, it means a scientific recognition of the cold indisputable facts that inasmuch as individuals live in society (1) they must and do make their valuations and acts in view of their posterity and the longer life of the group, and (2) they must and do make their valuations and acts in view of the greater scope of the reactions caused within the group and the different supply limitations. In short, to the individual, time and space and value are what they are partly because society is.

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SOME ECONOMIC ASPECTS OF THE NEW LONG AND SHORT HAUL CLAUSE¹

SUMMARY

Early interpretation of this clause, 323. — I. Cases in which relief is granted; the general policy, 325. — Roundabout lines, 327. — Cross-lines, 328. — Market competition, 330. — The parallel of a protective tariff, 332. — II. Extent of relief granted, 333. — Recent trans-continental rate cases, 334. — The zone method criticised, 335. — Conclusion: the margin of tolerance and the Commission's ideal, 336.

WHEN a statute has been suddenly revived after a sleep of twenty years, we cannot help wondering whether it has, like Rip Van Winkle, been much changed in the interval. In the early days of struggle for existence, the Interstate Commerce Commission was waging a losing fight in the mere attempt to give to the "long and short haul clause" some meaning and force. Now it feels free to give the clause what meaning and force it will, subject only to constitutional limitations and to the guiding principles of reasonableness expressed in the statute.² Then as now, the Commission had power in special cases to permit any carrier to charge less for a longer haul, and to "prescribe the extent to which such designated common carrier may be relieved from the operation of the section." But whereas at present this power to relieve is the central fact of the fourth section, previous to 1910 it was from force of circumstances a dead letter.

¹ For a general survey, see Ripley, *Railroads: Rates and Regulation*, pp. 473 ff., 564-566, and chap. xix. The present study is more limited in scope, paying especial attention to the cases of 1912-13.

² *R. R. Com. of Nev. v. S. P. Co.*, 21 I. C. C. R. 339, 340.

No sooner was the act of 1887 in operation than many carriers took the ground that competition of any sort at the more distant point was a substantially dissimilar circumstance, and entitled them, not to relief in the discretion of the Commission, but to complete exemption. If this sweeping claim could be made good, no special relief need be asked for, since all the cases in which it could be of moment, or in which there was any great probability of its being granted, would be already taken out of the hands of the Commission entirely. So the question of authority had first to be fought out. In defending its jurisdiction the Commission became more uncompromising than at the outset as to what were "substantially similar circumstances." It held, for purposes of giving vitality to the act, that nothing but competition of water carriers or of rail carriers not subject to the act could remove any rate from its operation,¹ tho in the first case heard it had conceded that the roads might be entitled to exemption "in rare and peculiar cases of competition between railroads which are subject to the statute, when a strict application of the general rule of the statute would be destructive of legitimate competition."²

Whether or not this change of front was a wise tactical move, it probably had little effect on the outcome. In any case it is hard to see how the power to grant partial relief could have been anything but a dead letter in the incongruous setting of the original fourth section. The power could not be exercised arbitrarily, without reason given, for then the Commission would be open to the charge of exercising legislative powers which Congress could not constitutionally delegate to it. Only as it should follow the general rules of the act

¹ *R. R. Com. v. Clyde S. S. Co.*, 5 I. C. C. R. 324. Reviewed in 21 I. C. C. R. 414.

² *In re L. & N. R. R. Co.*, 1 I. C. C. R. 31.

with regard to reasonableness and undue preference would it be acting clearly within its powers as an administrative body. But if some carriers were to be relieved wholly or in part from the operation of a section which applied to all alike, what reasonable ground could possibly be shown for doing so, other than some difference in the "circumstances and conditions" surrounding the long and short haul in those cases in which relief was granted? If such difference were not admitted to be "substantial," it could hardly furnish reasonable ground for relief. But to admit that the difference was "substantial" would seem equivalent to admitting at once that this was a case to which the clause did not apply at all.

It seems clear that the Commission could never have succeeded in prescribing the degree of relief to be allowed, even if it had made good its claim that the clause applied to cases of competition between domestic railways. This claim, however, the Supreme Court refused to sustain.¹ A final attempt was made to prescribe the degree of relief to be granted in cases where circumstances were admittedly dissimilar, but the Commission was again overruled.² The first chapter was thus closed.

From this brief survey, one conclusion should stand out clearly. The original attitude of the Commission was not radical nor uncompromising. The rigid attitude commonly ascribed to it was wrought out under stress of combat, and expressed the Commission's ideas of the legal necessities of the struggle for jurisdiction, not a settled economic policy that would be followed out, once the fight for jurisdiction should be won.

¹ *I. C. C. v. Alabama Midland Ry. Co.*, 168 U. S. 144.

² *E. T. V. & G. Ry. Co. v. I. C. C.*, 181 U. S. 1.

I. CASES IN WHICH RELIEF IS GRANTED

In fact, the effect of the amendment of 1910 has not been by any means to establish a rigid long and short haul policy for all cases in which the discrimination is due to competition of carriers subject to the act. In the general statements with which the Commission signalized the reviving of the fourth section, it went back to the tone of its very first decisions, made nearly a quarter of a century previous, before the opening of the struggle with the courts. It proposed to grant relief in situations beyond the carriers' control — in difficulties that he has not brought upon himself by his own competitive policy. "If at the more distant point it finds a competition to which it must conform under the imperious law of competition, if it would participate in traffic to that point, it may discriminate against the intermediate point without violating the law, provided it establishes such necessity before the Commission."¹

The passage quoted sounds very like the "rare and peculiar cases" phrase of the original Louisville & Nashville decision.² Indeed the "rare and peculiar" case dealt with in this early ruling is the type of the most important class of exceptions granted in consideration of railroad competition under the new act; namely that of roundabout railroad lines which are in competition with more direct routes. These it is the settled policy of the Commission to relieve from the operation of the fourth section, provided always that the short line bases its charges on distance, and that the rates to intermediate points on the roundabout line are shown to be in themselves reasonable.³

¹ R. R. Com. of Nev. v. S. P. Co., 21 I. C. C. R. 341.

² In re L. & N. R. R. Co., 1 I. C. C. R. 31, 81.

³ Wright Wire Co. et al. v. P. & L. E. R. R. Co. et al., 21 I. C. C. R. 64; In re Rates on Salt, 24 I. C. C. R. 192, 195, and other cases.

This might seem to make a rather large breach in the barrier of prohibition that was intended to be "well-nigh universal," but no one familiar with the history of the question will be surprised. The Commissioners are only following the original policy of their predecessors; they are in accord with foreign practice, and with a sound "cost" theory of charges. The essential thing, under such a theory, is that each locality should get the benefit of its location, as measured in the actual relative costs of carriage. The circuitous route is, of course, ordinarily the more expensive, especially as the Commission has tentatively defined a circuitous route for this purpose as one at least 15 per cent longer than the direct line.¹ This is by no means a fixed rule, however; other disabilities than distance might have the same effect, even if the distance were the same.² The decisive thing is an economic disadvantage of some sort, that would of itself justify higher rates than those of the stronger (usually shorter) line. In view of more complex situations to come, the writer begs the reader's patience in a brief review of the economics of this simple and familiar case.³

An intermediate point (*C* in diagram) on the longer route has a right to a reasonable joint rate through the common junction and on by the direct line (*CAB*), if it is so near the common junction that this is the least expensive way for the carriers to haul the goods. This means a rate higher than the junction pays by an amount approaching the local charges for the haul *AC*.

To this rate, *C* is entitled on a cost basis and as a result of its location, no matter how the traffic moves;

¹ In re Rates on Salt, 24 I. C. C. R. 192, 195. Edwards & Bradford Lumber Co. v. C. B. & Q. R. R., 25 I. C. C. R. 93.

² In re Rates on Salt, 24 I. C. C. R. 192, 196. In re Lumber Rates, 25 I. C. C. R. 61. Grand Junct. Chamber of Com. v. D. & R. G. R. R. Co., 23 I. C. C. R. 115.

³ For a fuller discussion, going into some aspects of the situation not treated here, see Ripley, *Railroads: Rates and Regulation*, pp. 219 ff.

and it is not entitled on a cost basis to any lower rate. If the route *CAB* were owned by one company and *CDB* by another, there would be no question raised of the fairness of the adjustment of charges. Why then

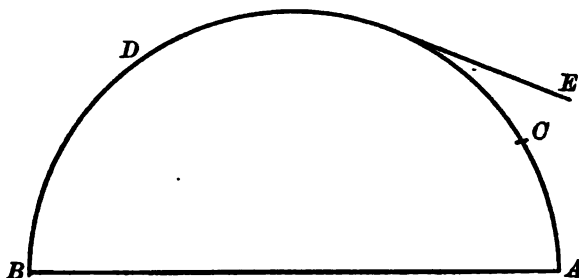


DIAGRAM I

should the principles of justice, as based on cost, turn a somersault if we suppose the stretch of track *AC* has been sold by one company to the other? In a closed circuit of this sort, the cost principle demands that to any terminus the economic mid-point should pay the highest rate, and it is only by chance that this mid-point could be identical with a junction of the lines of two separate companies.

Now if the roundabout route chooses to compete for traffic between the common termini, so long as this does not result in unduly low rates from *A* to *B* direct (the Commission requires the direct line to observe the fourth section), it is a matter purely between the two companies, injuring no one, unless it results in wasteful carriage. This latter aspect is not to be neglected;¹ but such bidding for roundabout hauls is not likely to be very prevalent unless there is some unused capacity which can be employed at slight additional expense, so that the possible waste of the roundabout haul is not necessarily as great as would appear from a glance at

¹ See Ripley, *op. cit.*, chap. viii.

the map. If the direct line is unable to carry all the traffic between its termini, the roundabout haul becomes the cheapest way to handle the surplus and avoid congestion; a condition which occurs, to be sure, only intermittently.

But even if the short line is not congested, to compel the granting of terminal rates to intermediate points would not prevent a discrimination but create one, and one that might just as logically be extended to an outside point *E*. In fact, if it were not, the point *E* would have just cause of complaint. Thus, if a territory is divided into zones whose rates increase with distance, and one carrier happens to have a route that passes through a higher zone on the way to or from points in a zone of lower charges, it would not simplify matters to compel that carrier to observe the fourth section.¹

Another interesting case is that of the independent cross-line forming the base of an isosceles triangle or one side of a rectangle, and able to divert in either direction through freight from its own local stations — the type of a large class of problems with which Professor Ripley has made us familiar.² A case of this sort has been settled, not on the ground of preventing waste in roundabout carriage, but, like the general case of the circuitous route, on the sole basis of giving each station the benefit of the shortest route available by which its traffic *might* move. Carthage Junction³ is farther from various Ohio River crossings than are the points on either side of it, and it pays a higher rate. This is upheld, even tho “it often happens . . . that this carrier, . . . for purposes and reasons of its own, desires to haul traffic which originates west of Carthage Junction through Carthage Junction east to a connec-

¹ In re Lumber Rates, 25 I. C. C. R. 50.

² Op. cit., pp. 282 ff.

³ In re Lumber Rates, 25 I. C. C. R. 50, 56.

eastern or its western junctions.”¹ The opinion in the case gives no hint whether the “purposes and reasons of its own” which give rise to the practice complained of are matters of transportation convenience, such as the balancing of its eastward and westward tonnage so as to reduce the haulage of empty cars, or whether they are concerned with getting the most favorable division of the through rate with the connecting carriers. But it seems plain that the question at issue is not to be settled on the basis which Professor Ripley suggests, of preventing roundabout shipments at lower rates than are granted to points on the way, through which the shipments pass.

So much for the circumstances which will justify the granting of relief. The fact has already been mentioned that competition with other railroads will not of itself furnish a basis for the granting of relief to the shortest line, nor to any other of approximately equal length.² Market competition falls almost in the same category. By itself, it is not enough to justify departure from the general rule, tho the Commission will not say that it could never do so.³ The writer may hazard the conjecture that when exception is made, it will be to preserve the life of established industries and the value of invested capital which have been protected so long against the superior advantages of others that they have acquired a “vested interest” in such protection.

The Commission argues, however, that if carriers make an extra low through rate to put Kansas salt into St. Louis in competition with salt from Michigan, the carriers of the Michigan salt could retaliate with equal justice,⁴ and there would be no logical limit. “This

¹ Cf. Ripley, *op. cit.*, pp. 295, 296.

² 24 I. C. C. R. 192, 25 I. C. C. R. 61.

³ *In re Lumber Rates*, 25 I. C. C. R. 50, 59.

⁴ *In re Rates on Salt*, 24 I. C. C. R. 192.

form of discrimination is one which feeds upon itself, . . . and it ought to be snuffed out in its infancy before property rights and commercial conditions have intervened to render the thing aimed at difficult of accomplishment."¹ It seems here to be implied that if another case of this same sort were to arise, in which the practice was not attacked until after property rights had grown up, the answer might be different.

While agreeing entirely with the general view of the Commission, the writer has had some questionings as to the logical consistency of the policy. If we accept the idea that market competition may be something more than a mere "euphemism for railroad policy,"² we may draw some interesting comparisons. If the actual cost of making goods and carrying them to St. Louis from the east is less than from the west, but if the western carrier makes an extra low rate, low enough to meet the eastern competition, it is not at once obvious how this weak-line competition differs in principle from that of a roundabout route against a direct one joining the same termini. And if the western road makes the rate to St. Louis lower than to nearby intermediate points, have these points been robbed of anything to which their geographical situation entitled them? By the terms of the problem, the lowest actual cost at which the goods can be made and laid down at their doors is more than the same goods need cost laid down at St. Louis.

But the assumptions (expressed and implied) on which this case rests are such as would prove in practice both elusive and unstable. To ascertain with accuracy the point at which the combined cost of making and laying down the goods is the same from the east as

¹ *In re Lumber Rates*, 25 I. C. C. R. 50, 60. See also *Bluefield Shippers Assoc. v. N. & W. R. Co.*, 22 I. C. C. R. 519, 525.

² 21 I. C. C. R. 267.

from the west, we must know the relative costs of production at the different sources of supply, and must make allowance as well for any differences in quality which might enable one producer's goods to make way against another's even at a higher price. And if we were to base a rate policy on our findings, we ought to be sure that these relative costs and qualities would not change in the future. For if the western producers should become enough more efficient, the whole argument would fall to the ground, and the case become one of obvious discrimination in favor of St. Louis and against the intermediate points. Such justice totters on a narrow pedestal. We should also make sure that the financial situation of the railway will not change, for if it does, the road may find itself no longer anxious to carry the traffic in question at such low rates, and yet unable to alter its policy without damage to "vested interests."

The essential difference between the two kinds of competition shows itself in facts like these. In any case like the one just described, capital and labor are being supported in a relatively unproductive locality, while in the competition of routes, so long as the rates of the strongest route are not twisted out of a reasonable adjustment, no industry is affected save the railroads themselves. And if the roundabout line should decide to cease bidding for competitive traffic, or to let part of it go, that is an affair between the traffic manager and his superiors, making no essential difference to anyone outside.

Railroad systems, like nations, are prone to protect their own infant industries;¹ but the regulator who

¹ The writer has elsewhere discussed more fully the parallel between railway rate theory and the theory of international trade. *Columbia Univ. Studies*, vol. 37, no. 1, pp. 125-135. The discussion of Commissioner Meyer's paper at the last session of the American Economic Association (held since the above was written) shows that economists recognize the fundamental identity of principle involved.

seeks a nation's welfare is like an economist with a world-inclusive outlook viewing a protective tariff. He concedes it justifiable in certain cases, but he is likely to conclude that out of the great array of protected industries, the infants whose special nurture has repaid its cost are few and far between. Hence the fact that the Commission will not allow market competition, if unsupported by special considerations, to justify lower charges for the longer haul, may be regarded as a salutary check, making somewhat more expensive a policy which is likely in any case to be carried beyond the limits of gain for the country at large.

II. EXTENT OF RELIEF GRANTED

It is in the exercise of its discretion to decide the degree and kind of relief to be granted that the most interesting questions arise, for the burden of proof is on the carrier to justify the rates he wishes to charge. "It must be affirmatively shown by the carrier seeking such exception that injustice will not be done to intermediate points by allowing lower rates at the more distant points."¹ This is a return to the principle of the Cullom Report of 1886, which proposed that a greater charge for a shorter distance should be "presumptive evidence of unjust discrimination."

As to the extent of the Commissioners' discretion, they have maintained that confiscation is the only limit.² They may fix a maximum difference between the rates of the two points in question, or a minimum rate at the farther point (a rare thing in rate regulation). They may "define the territory from which a higher intermediate charge may be made," or fix a maximum rate at the intermediate point. In fact, they may

¹ *R. R. Com. of Nev. v. S. P. Co.*, 21 I. C. C. R. 341.

² *R. R. Com. of Nev. v. S. P. Co.*, 21 I. C. C. R. 329, 340.

limit the discrimination "in any way that is definite and certain."¹ Within the limits set, it would seem that the Commissioners have a freer hand to work out their own ideas of relative reasonableness than ever before.

By far the most striking rulings have been in the cases dealing with the rates from the eastern and central section to points near the Pacific coast. The questions at issue and the general features of the decisions are now familiar. On account of water competition, the rates from the eastern coast are highest to points some distance inland, and lower to Pacific ports. When the carriers serving Chicago and other points in the eastern half of the continent began the policy of putting these cities on a par with the seaports in competition for the western markets, they took the rates as they found them, discriminations and all. Under these rates, producers west of the Alleghenies have come to do more and more of the business, until now most of the traffic paying the rates is not subject to water competition that would of itself account for the discrimination.² It seems to have been true, however, that the ocean carriers did reach inland and draw cargoes to the Pacific coast via the Atlantic from as far west, at times, as Chicago, often themselves "absorbing" the cost of the eastward haul. The Commission met this situation³ by dividing the country into zones, one where water competition admittedly has full force, one where it has no force, and two intermediate zones where its effect is weak or intermittent. The amount by which the intermediate rates in question might exceed the through charges was limited to 25 per cent from the eastern zone, 15 per cent

¹ *City of Spokane v. N. P. Ry. Co.*, 21 I. C. C. R. 400, 415.

² *R. R. Com. of Nev. v. So. Pac. Co. et al.*, 19 I. C. C. R. 238, 247-251.

³ *Intermountain Rate Case*, 21 I. C. C. R. 355. *City of Spokane v. N. P. Ry. Co.*, 21 I. C. C. R. 400, 423.

from the next, 7 per cent from the next and none from the zone farthest west.

At first sight the ruling seems logical. Yet here also disturbing questionings arise which make one doubt if this will prove a permanent solution of the problem. Indeed the Commission can hardly be said to regard it as such, since it held that it would be within its rights in refusing relief to all but the seaboard zone, as it had not been affirmatively shown that the coast-to-coast rates were unreasonably low in themselves if applied to the haul from the inland zones to the intermountain region. Such being the case, and the law placing the burden of proof on the carriers to establish the reasonableness of their intermediate charges, the Commission could legally have lowered all the intermediate rates to the level of those granted to the seaports. The fact that they gave the permission to charge more, represented an attempt to be "extremely conservative in this, the first application of the new law."¹ Regarded as an attempt to set up the exact reasonable charge to the intermountain region (of which no pretense is made), the decision would surely be open to the objection raised by the Commerce Court in enjoining it,² namely, that the Commissioners cannot say whether the intermediate rates chargeable under their order are absolutely reasonable or not, for they do not know what those rates will be. Apparently, the Commission assumed that the coast-to-coast through rates would go no lower than they were at the time — a bold assumption in view of all the possibilities of the Panama Canal. If the decision had used percentages of the coast-to-coast rates as they stood at the time, its position might have been unassailable. Possibly the Commission had in mind its experience with the Texas Commission, in which its at-

¹ *R. R. Com. of Nev. v. A. T. & S. F. Ry. Co.*, 21 I. C. C. R. 329, 369.

² *A. T. & S. F. Ry. Co. v. U. S.*, 191 Fed. 856.

tempts to prevent a discrimination by lowering an inter-state rate were frustrated by lowering the competing intra-state rate still farther. Were the Commissioners afraid that an order that should merely lower these intermediate rates would be the signal for an orgy of rate cutting by the roads who are interested in seeing the Pacific seaports do as big a jobbing business as possible?

As to the logic of the competitive situation, it would seem that the straight path to the end desired would be to determine, if possible, what rates from the various zones are needed, *bona fide*, to meet the rail-and-water competition, and to order that the only rates exempt from the long and short haul prohibition shall be rates that are not lower than the competitive rates so found. The result would be quite similar to that of the rulings of the Commission: it would level off the summit of the mountain-peak of high rates which raises its bulk so forbiddingly to the western inland rate-payer, but the method would be more direct. A rate is either determined by water competition or it is not. If not, it is not entitled to exemption; but if it is so determined, what reason is there for putting a percentage limit on the relief granted? If the method here suggested be practicable, it would seem to offer the simplest way of separating "business" reductions of rates (made necessary by direct competition of routes) from "charitable" ones (due to market competition), and enacting that charity must begin at home.

In conclusion, a few general impressions present themselves. In the first place, all cases under the fourth section cannot but be witnesses to the wide margin of tolerance for different methods of constructing tariffs that exist in our regulative machinery. Strict mileage scales, tapering scales, blanket rates of wide extent,

and combinations both forward and (with the permission of the Commission) backward from a competitive terminal point, — all are allowed within the limits of this discretionary statute. All that is accomplished by rulings under the fourth section is to substitute blanket rates for rates that disregard distance still more violently.

In many cases the Commission, acting under its general powers, has gone farther than this. It has limited the extent of single blanket rates when that seemed excessive, and has prescribed rates of its own making in the form of modified distance scales. But this work tho of the utmost interest, is beyond the bounds of the present study.

Secondly, it seems that the Commission's ideal has much to do with the efficiency to be gained by placing the country's industries in the situations most favorable for them, and less to do with preventing the losses in transportation efficiency that come directly from wasteful carriage, in ways made familiar by Professor Ripley's analysis.¹ And, thirdly, one cannot but wonder whether the shifting to the carriers of the burden of proving that rates to intermediate points are reasonable may not have been, during the months that are past, a more effective weapon in lowering these rates than it can ever be again. For the attorneys of the railroads cannot fail to learn better and better now to support this burden of proof, as the Federal Department of Justice in enforcing the Sherman Act had to learn, through the fiasco of the Knight case, how to prove to the courts that an illegal combination existed, and emerged at the end successful.

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¹ Railroads: Rates and Regulation, as cited.

INDUSTRY IN PISA IN THE EARLY FOURTEENTH CENTURY

SUMMARY

Pisa's commercial greatness and prosperity, 339. — Her decline at the end of the thirteenth century, 340. — Industrial organization in the early fourteenth century, 341. — Its mature form, 341. — The gilda, 341. — The unorganized crafts, 347. — The crafts, organized but dependent, 348. — Industrial regulation by the gilda, 349. — By the city, 350. — Study of the woolen industry, 353. — The Curia Mercatorum, 354. — The Arte della Lana, 355. — The domestic system in the shell of the old gild organization, 356. — Conclusion, 358.

Up to the present time, our knowledge of Italian economic history in the early Renaissance is slight. There are the studies of Poehlmann,¹ Doren,² and Davidsohn³ for Florence, of Broglio d'Anjano⁴ for Venice, and of Schaube⁵ for Pisa, but practically nothing of value besides. This is not due to the lack of available printed sources; for the printed Statuti of the Italian cities contain a mass of material which will amply repay investigation.⁶ As an example of what can be done from the printed sources I have made this study from the Statuti of Pisa,⁷ a contribution toward a fuller knowledge of the industrial side of Italian economic history.

¹ Poehlmann, R., *Die wirtschaftspolitik der florentiner renaissance und das princip der verkehrsfreiheit*.

² Doren, A., *Studien aus der florentiner wirtschaftsgeschichte*.

³ Davidsohn, R., *Geschichte von Florenz*.

⁴ Broglio d'Anjano, R., *Die Venetianische seidenindustrie und ihre organisation bis zum Ausgang des mittelalters*.

⁵ Schaube, A., *Das Konsulat des Meeres in Pisa*.

⁶ The Library of Harvard University has recently acquired a large collection of Italian Statuti, numbering nearly four hundred volumes.

⁷ *Statuti Pisani*, edited by Francesco Bonaini in three volumes, Florence, 1854-70.

Pisa began her expansion before the first Crusade. In company with Genoa she had cleared the Tyrrhenian Sea of Saracens, and a victory over the Muslims in North Africa in 1087 opened the rich trade of North Africa. But in the next two decades came still greater expansion. The Pisans were pushing and ambitious. They used the Crusades early for their own commercial advantage. Their fleet, on which sailed the Archbishop of Pisa himself, the great Daibertus, was among the first to reach the Holy Land during the First Crusade. Only by its help was Jerusalem taken; and in return for this aid, the Pisans secured a quarter in Joppa, the port of Jerusalem. During the next five years, Pisan fleets aided in the conquest of many a city; the rewards were trading rights and quarters. The stately array of charters and grants of rights and quarters in Laodicea, Antioch, Tyre, Joppa, Jerusalem, Tripoli, and Acre,¹ made and constantly reaffirmed to her consuls throughout the twelfth century, show the extent of her commerce and power. Moreover she had favorable commercial treaties with the Greek Emperor¹ and the Kings of Busa² and Tunis,³ which opened Constantinople and the whole of North Africa to her merchants in the thirteenth century.

The proofs of her wealth remain to this day. The Cathedral, far away from the markets and shops and busy wharves, was begun in 1118, the great wall in 1142, and the Baptistry in 1153. Even Villani, Florentine tho he was, concedes her greatness and wealth. Under the date of 1282 he writes, "At this time there were more powerful and rich citizens in Pisa than in any other city in Italy. The Pisans were lords of

¹ For these charters see Flaminio dal Borgo, *Diplomi Pisani*, pp. 85 to 103 inclusive.

² *Ibid.*, p. 173.

³ *Ibid.*, p. 210.

⁴ *Ibid.*, p. 213.

Sardinia, of Corsica and of Elba, and their private revenues as well as those of the commune were immense. It may be said that their ships had command of the sea. In the town of Acre, they were most powerful, and were related to many of the rich burgers there."¹

By the beginning of the fourteenth century, Pisa had passed the zenith of her greatness. In 1284, Genoa defeated her in the battle of Meloria. Her fleet was destroyed, thousands of her citizens killed, and at least 9,272 taken prisoners to Genoa and kept there for years.² Close upon this defeat came civil war, a papal interdict, and an alliance of Genoa, Lucca and Florence against the city. Her commerce declined.³ Yet Italian cities have always shown a great power of recuperation, and Pisa is no exception.⁴ Twenty-six years after Meloria, when Henry VII announced his coming into Italy, the city sent to him the sum of 60,000 ducats from the city treasury, and promised a like sum when he should enter Italy.⁵ During Henry's campaign in Italy in 1312-13, Pisa was one of his chief allies and aids.⁶

During the centuries of the city's great commercial expansion and activity, there had gone on a development of industrial organization of which we know very little. It is not surprising, however, to find, in the late thirteenth and early fourteenth centuries, the organiza-

¹ Giovanni Villari, *Cronica*, vol. i, p. 416.

² Villari, *History of Florence*, vol. i, p. 290. The basis for these figures is the inscription on the church of St. Matteo at Genoa. At the end of Bonaini's first volume there is a fac-simile reproduction of this inscription in color.

³ Schaub, A., *Das Konsulat des Meeres in Pisa*, p. 52. He considers the decrease of the number of men in the greater council of the *Ordo Maris*, the important commercial maritime guild, from 76 in 1286 to 24 in 1300, a very strong proof of commercial decline.

⁴ For illustrations of the recuperative powers of the Italian cities, see the stories of the conflicts between Venice and Genoa in Horatio Brown, *Venice, an Historical Sketch*.

⁵ Albertinus Mussatus, in Muratori, *Rer. Ital. SS.*, vol. x, p. 334.

⁶ *Ibid.*, p. 411.

tion of industry in what may be called a mature form. Not only was the form of industrial organization mature, but this organization had become fossilized, so that any new development had to proceed under the shell of the old system. This happened, as will be shown presently, in the woolen industry.

The industry of the city was centered in the *Arte della Lane*, or Wool Gild, and the seven craft gilds which made up the *Septem Artes*.¹ The *Arte della Lane* and two gilds of merchants, the *Curia Mercatorum* and the *Ordo Maris*,² composed the *Tres Ordines*.

This division of the gilds into two groups we find in Florence also. The *Tres Ordines* of Pisa correspond to the seven greater gilds of Florence; and the *Septem Artes* of Pisa to the fourteen lesser Florentine gilds. The line of division is probably the distinction between the "popolo grasso" and the "popolo minuto" in each city. The seven craft gilds in Pisa were the gilds of the Smiths, the Skinners, the Shoemakers, the Tanners, the Butchers, the Vintners and the Notaries.

At the head of each gild, exercising a general oversight over the gild, were consuls or captains. They varied in number: in the Wool Gild there were three; the Butchers had six; and the Vintners four. Their election is interesting, in that it shows a clinging to the older forms of democracy, after the substance had gone, — an indication of the maturity of the organization. Sometime in December, the gildsmen assembled in a church, the Skinners, for instance, in the church of St. Laurentius, the Vintners in St. Lonardus, the Tanners

¹ This name is used in two senses: as a general name for the seven gilds, and as a specific name for the incorporated union of the gilds which was made in 1305.

² With these two gilds of merchants I shall not deal. The *Ordo Maris* has been carefully studied by Adolf Schaube in *Das Konsulat des Meeres in Pisa*, to which I have already referred. No study has been made of the *Curia Mercatorum*, which was composed of merchants trading by land.

in St. Michael in Burgo. The gildsmen, however, did not all take part in the election. They were merely present. As a good example, the method of election in the Butchers' Gild may be described.¹ The twelve councillors of the Consuls were joined by twelve "worthies,"² chosen by the consuls. To these twenty-four men, an equal number of ballots was given, eighteen of which were blank, and six contained the word "elector." The six electors thus created at once chose the new six consuls and announced the result to the assembled craft. The consular term was one year, from January first. One gild prescribed that the consuls must be at least thirty years of age.³ As a rule, either the consul or his father must have been born in Pisa, altho this deficiency could be overcome by a ten or twenty years' residence in the city, with the payment of dues and services to the city, and possessions worth at least £50.⁴ We often find rules intended to keep the consular office in the hands of the actual masters who worked with their own hands, or at least directed workmen.⁵ The candidate for the consulship must have exercised the craft at least ten years, "himself or his father," and he must have been exercising it continuously for the two years before the election. Such regulation represents an effort on the part of the actual workers to keep the control of the gild in their own hands. It would be necessary only in a late stage of organization, where the most powerful gildsmen had ceased to be industrial masters.

¹ I take the description from Bonaini, vol. iii, p. 1005. All references to Bonaini in the future will be merely by volume and page.

² "Bonos homines." In some of the gilds the councillors of the consul act alone, there being no addition of "bonos homines."

³ The Vintners, vol. iii, p. 1105.

⁴ Vol. ii, p. 46. For further matter on the election of consuls and their qualifications see, vol. ii, p. 46, vol. iii, p. 55, vol. iii, p. 873, vol. iii, p. 876, vol. iii, p. 915, vol. iii, p. 1023, vol. iii, p. 1058.

⁵ Vol. iii, p. 876, vol. iii, p. 932, vol. iii, p. 1180.

This happened in the London Livery Companies, where the trading masters finally gained control of the gild organization.

The consuls were assisted by a council; sometimes, as in the *Arte della Lana*, and probably in the *Smiths*, by a greater and a lesser council.¹ The consuls were paid a salary, but sometimes we find that they could not refuse to accept the office without paying a heavy fine.² There was also a *Camerarius*, who handled all the moneys of the gild. He was elected, and held office for a year. Some gilds had also a notary, a messenger, and a judge.

Each gild had its own court,³ presided over by the consuls in turn or by one of them,⁴ before which all cases involving gildsmen were tried. In the *Smith's* gild, one consul sitting alone could try cases up to 20 *solidi*; cases involving more had to be tried by all the consuls.⁵ No appeal could be taken from the gild court; its sentence was final.⁶ If a gildsman felt injured by his consuls, he could not summon them before the *Potesta* or captains of the city, but he might complain to the other consuls, or to the captains and priors of the corporation of the *Septem Artes*.⁷

The problem of admission to membership in the gild is important. Did the gildsmen admit new members

¹ The councils were either chosen by the consuls as in the *Smith's Gild*, or elected as in the *Vintner's Gild*.

² The *Vintners* paid £3, and a half of all fines in the gild court. The *Arte della Lana* paid £15, but imposed a penalty of £13 for refusal to serve. The *Smiths* paid 15 d. for each shop, and a half of all fines in the court.

The symbols £, s., and d. do not refer to English money, but the *livra*, *solidus* and *denarius* of the Italian money of account. Twelve *denarii* made one *solidus*, and twenty *solidi* a *livra*. The metal content of these coins is not certainly known, but it was probably smaller than that of the present English money.

³ Vol. iii, p. 957, vol. i, p. 89, vol. iii, p. 919.

⁴ Vol. iii, pp. 867, 870.

⁵ Vol. iii, p. 871.

⁶ Vol. iii, p. 871. See also vol. iii, p. 867, vol. iii, p. 676.

⁷ Vol. iii, p. 1179.

freely, or did they seek to maintain their privileges for themselves? Was their policy inclusive or exclusive?

In Northern Europe, the normal way to become a master gildsman was to serve as apprentice with some master for a specified time, learning the craft. The apprentice became a journeyman when his time of training had expired; and when he was able, he might open a shop of his own. In Pisa we find the usual system of apprenticeship. The term varied widely among the gilds. The Tanners of Spina required six years; the apprentice was to have 3 solidi a year, and was to furnish his own bread, wine, and bed.¹ The Skinners of the New Bridge required six years. Eight days' trial was allowed before the indenture was made. The master furnished food and drink. Before the apprentice could open a shop, he had to pay the gild 100 solidi.² The Tanners of St. Nicolas demanded an eight year term, paying two to six solidi per year.³ The term of the Shoemakers was three years,⁴ and of the Vintners five years.⁵ The Skinners forbade giving work to any boy younger than sixteen years,⁶ and required an apprenticeship of at least two years.⁷ There is no trace of the requirement of anything like a masterpiece.

Could admission to the gild, with the right to open a new shop, be obtained in any other way than by serving an apprenticeship? Most gilds made provision for this. First, in the case of citizens. In the Spina Tanners,⁸ membership could be inherited by sons, brothers, grandsons, and first cousins. The Butchers were liberal. All they required from a citizen was that he should take an oath to observe the Breve or gild charter, and to exer-

¹ Vol. iii, p. 964. The indenture had to be drawn up within 15 days.

² Vol. iii, p. 980, vol. iii, p. 987.

³ Vol. iii, p. 993.

⁴ Vol. iii, p. 1032. Fifteen days' trial was allowed.

⁵ Vol. iii, p. 1128.

⁷ Vol. iii, p. 1063.

⁶ Vol. iii, p. 1069.

⁸ Vol. iii, p. 964.

cise the craft without fraud.¹ The Wool Gild required from a citizen wishing to open a shop an oath to the gild, and the payment of forty solidi.² But in the case of strangers the requirements were more exacting. Ten livrae was generally required, with an additional bond of from twenty-five to fifty livrae, that the work should be honestly done.³ The Smiths demanded a payment to the gild of only twenty solidi, with a bond of twenty-five livrae.⁴ The Skinners' Gild, on the other hand, exacted a fee of fifteen to twenty-five livrae.⁵ The Skinners of the New Bridge absolutely excluded everyone from the mastership who had not served a six year apprenticeship.⁶ Strangers coming to the city might, however, be allowed to work for wages in the gild. Whether these various fees were prohibitive can best be seen from a study of wages. The shipwrights received three solidi to four solidi ten denarii per day. Finishers of leather (workmen in the Skinner's Gild) got five solidi six denarii a day, so that their fee of fifteen livrae would mean fifty-five days' pay. The fine of a lanaiuolo who refused the consulship was thirteen livrae. The Notary of the Tanners was paid three livrae per year, and of the Wool Gild eighteen livrae. On the whole, the requirements for admission to the gild mastership appear to be high, and the policy fairly exclusive, especially in the case of non-citizens.

The importance of the problem whether admission to gild-membership was easy or difficult at once becomes plain when we know that the gilds had political as well as industrial functions. Indeed, the political aspect may in some respects be regarded as the more important, for the gilds sometimes did not have a

¹ Vol. III, p. 1013.

² Vol. III, p. 606.

³ For example, the *Arte della Lana*, vol. III, p. 606.

⁴ Vol. III, p. 872.

⁵ Vol. III, pp. 987 and 988.

⁶ Vol. III, p. 1077.

monopoly of industry in their own particular crafts, while they may be said to have had a monopoly of political rights. Guildsmen exercised the franchise and membership in a gild was one of the few ways in which a man of the "popolo minuto" could have a voice in the city government. Under the commune, the gilds had no political power or official place in the city government. In 1188, however, it is to be observed that an oath of peace with Genoa is signed first by the twelve consuls of the City, and then by the Consuls of the Merchants and the Consules Artis Lane, before the signatures of the individual citizens.¹ This indicates that even thus early the Merchants and the Wool Gild were becoming influential in the state.

In 1254, a popular revolution, led by the "popolo grasso," overthrew the Commune, and set up a captain of the people beside the Potesta, while twelve "Anziani" or Ancients held the actual power in the city.² The council of the Anziani just after this Revolution, was made up of the consuls of the Ordo Maris, the consuls of the Ordo Mercatorum, and the consuls of the "Quattuor Artes." The four craft gilds which thus succeeded in gaining political power in 1254 were the Tanners, the Notaries, the Smiths, and the della Lane.³ When next we find mention made of the gilds, the Arte della Lane has ceased to be considered as one of the craft gilds and is counted with the Ordines, and four new craft gilds have been given political power. By 1277, the year of our document,⁴ the number of craft gilds with a place in the state was seven. This number

¹ Flam. del Borgo, *Diplomi Pisani*, p. 114.

² Schaube, *op. cit.*, p. 43. Muratori, *Rer. Ital. SS.*, vol. xxiv, pp. 644-645. A similar revolt took place in Florence four years earlier. Villari, *History of Florence*, vol. i, chap. 4.

³ Schaube, *ibid.*, p. 44.

⁴ Schaube, *op. cit.*, p. 44; Bonaini, vol. i, p. 53.

was never increased, and was definitely fixed at seven in the new constitution of the city in 1286.¹ New guilds had been organized; but the Captain of the city now swore "to compel all captains, councillors, and rectors of guilds and mysteries, except the *Tres Ordines* and the *Septem Artes* to surrender their charters." In the future "no other artificers, or men of any work, could have charters, or captains or consuls." Such fixing of the number of guilds is not uncommon. Loesch shows it occurred in Cologne,² Geering in Basel³ and Villari speaks of it in Florence, where it occurred seven years later than in Pisa. In Florence this may have been due in part to the jealousy of the *poletariat* by the "*popolo grasso*" and "*popolo minuto*"; for their power would have been diminished by the formation of new guilds among the lowest class. In Pisa, a careful study of classes and class struggles might reveal a similar cause. Of the twelve *Anziani*, four had to be chosen from among the *Septem Artes*; ⁴ the others were chosen from among the *Tres Ordines*. The *Anziani* were elected by an assembly which included the *Anziani* in office, their two councils, the consuls of the Wool Guild, the priors and captains of the seven guilds and some other groups.⁵ The individual gildsman has little or no direct part in all this process; but his guild has a very important place in the city government; and in this way we may say that he has the franchise and exercises political rights.

As has been already noted, all the industry of the city was not organized under the guild system, which was

¹ Vol. i, p. 631.

² Loesch, H. von, *Die Kölner Zunfturkunden*.

³ Geering, T., *Handel und Industrie der Stadt Basel*, pp. 25 ff.

⁴ Vol. i, p. 307. Not more than one *Anziano* was to be chosen from the same guild.

⁵ Vol. i, p. 573.

restricted to eight crafts, — those of the *Arte della Lana* and the seven gilds. Of the remaining crafts, some were entirely unorganized, and some had an organization dependent upon another body. Let us look first at the entirely unorganized crafts. Any person coming to the city of Pisa to live might exercise any unorganized craft freely, provided that he paid the obligations demanded by the city of its citizens: the “*data*” and the real and personal “*servitia*.”¹ In the years between 1313 and 1327, a reciprocity clause was introduced; no stranger, in whose city an exaction was made from a Pisan for exercising his craft there, could exercise his craft in Pisa unless he paid a similar exaction.²

Possibly to prevent an effort to organize and control certain crafts contrary to law, there were express statutes forbidding any interference with any citizen wishing to exercise these crafts. For example, no shipwright could forbid a citizen, or even a stranger, from building ships.³ In 1286,⁴ an attempt was even made to break down the exclusive monopoly over their craft of some of the seven gilds. Any citizen or countryman might sell meat in Pisa, provided that he swore before a judge to observe the regulations laid down for butchers. He was not, however, to be subject to the consuls of the Butchers unless he wished.⁵ Likewise, any citizen wishing to prepare hides might do so without contradiction.⁶

There still remain the crafts which, tho they had an organization of their own, were dependent upon another body. The Candlemakers, the Apothecaries, the Doc-

¹ Vol. i, p. 288, vol. ii, p. 254.

² Vol. ii, p. 251.

³ Vol. i, p. 306.

⁴ The date may have been earlier, but our first statute dates from that year. There is a gap in the *Brevia* from 1164 to 1286.

⁵ Vol. i, p. 311.

⁶ Vol. i, p. 306. This rule was, however, broken down in 1306.

tors, one group of Dyers, the Tailors, the Hatmakers, the Mirror-makers and the Turners had organizations of this description.¹ They had their own Brevia, and their own Rectors and Consuls, but were subject in all things to the Consuls of the Curia Mercatorum, to which they were attached, and to the rules of the Breve of the Curia. The Consuls of the Curia Mercatorum swear, on entering office, that they are ready to give to each association of merchants or artificers subject to him, a Breve drawn up in the Curia.²

The origin and exact nature of these groups is not clear. But Geering³ describes a similar situation in Basel. Here the craft guilds became political units, and in 1354 their number was fixed at fifteen. As new industries and new groups of workers developed, they were added to the older existing guilds, so that the guild of the Krämer, which corresponds in a rough way to the Pisan Curia Mercatorum, had under its jurisdiction no less than twenty groups of artisans. The development in Pisa may have been similar.

We come now to the question of the regulation of industry. In a craft which was organized as a guild, a great part of the regulation of that craft was in the hands of the guild itself, and was minutely provided for by the guild statutes. Fair dealing is enjoined upon guildsmen in their dealing with each other. One of the commonest rules is that no one of the guild shall enhance the rent of a guildsman's booth by offering more rent for it. And if the rent of a booth is increased by the owner, so that the guildsman vacates it, no other member of the guild may do any work of the craft there for three

¹ Vol. III, pp. 20-32, vol. III, p. 29, vol. II, p. 42, vol. III, p. 123, vol. III, p. 125, vol. III, p. 132, vol. III, p. 136. In these pages their Brevia are given.

² Vol. III, p. 42.

³ T. Geering, *op. cit.*, p. 42.

years.¹ In the Tanners' Gild we find rules such as this: that when a buyer comes to a tanner's shop, another tanner may not linger around to hear the said business.² There are a few regulations concerning the purchase of raw materials. The Smiths provide that coals must be bought from men of the gild; and if anyone buys coals on the Arno, — that is, as they are brought to the city, — he must divide them with any member of the gild who wants them, for the same price which he paid.³ Tanners were not to buy skins of any regnator.⁴

Occasionally, we see protection of home industry, as when the lanaiuoli, men of the Wool Gild, are forbidden to bring wool on a distaff, or combed in any way, from outside the city into Pisa.⁵ No tanner could buy any leather tanned outside the city;⁶ certain tanners swore not to tan any leather outside the city, nor take any apprentice who would not take a similar oath.⁷ The lanaiuoli were forbidden to open shops outside the city proper,⁸ and the export of certain thread was prohibited.⁹

But there was also regulation of industry by the city; and this regulation was extended not only over the crafts which were not organized as gilds, but the gilds as well. The regulation of unorganized crafts by the city offers some interesting features. Altho teachers are not strictly craftsmen, they seem to have been supervised in a manner analogous to the craft regulation. Agreements among "masters of the art of grammar,"¹⁰ for

¹ Vol. iii, p. 679, vol. iii, p. 946.

⁴ Vol. iii, p. 689.

² Vol. iii, p. 917, vol. iii, p. 956.

⁶ Vol. iii, p. 926.

³ Vol. iii, p. 865.

⁷ Vol. iii, p. 935.

⁴ Vol. iii, p. 917.

⁸ Vol. iii, p. 670.

⁹ Vol. ii, p. 230.

¹⁰ This statute is of date 1313-37, i.e. when Petrarch was very young, possibly before he had done anything at all to create interest in classical antiquity. It may be an indication of the beginning of the Renaissance in Italy.

putting up their prices higher than an appended scale,¹ were forbidden under the penalty of an enormous fine, and expulsion from the city. "In these deeds many of them are found to have been culpable, making agreement to the injury and detriment of the city." Moreover, no one of the said masters teaching scholars, should dare or presume to drink in any cellar of the city of Pisa, under penalty of forty solidi for each offence.² Farriers, shipwrights, barbers, bankers, and tile-makers were given regulations and maximum price-scales by the city. In the case of the farriers, there is an increase in the scale of about a third between 1286 and 1303.³ Laundrymen were not to wear their customers' clothes, and were compelled to make good any loss on the mere word of the customer.⁴ The shipwrights, if dissatisfied, had to submit their grievances to a disinterested board of arbitration.⁵ The barbers were not to shave or draw blood from any kind of leprous person.⁶ Bankers and money changers had to be natives of Pisa; they were under supervision, and to prevent loss to depositors, they had to deposit £500 to £5,000 with the city.⁷ Officials of the city, chosen in various ways, supervised these crafts.

Over the organized crafts, the guilds, as far as one may judge from the statutes, the city kept a firm hand. In 1286, all the Brevia of the Seven Guilds and the Arte della Lane were ordered to be handed in for correction and emendation within three days.⁸ This correction was to be done by wise men, chosen by the Anziani, and working under the supervision of the Anziani. Correction might be required by all Potestas and Cap-

¹ The teacher could charge forty solidi per year per pupil, and accept a present of five solidi more.

² Vol. ii, p. 287.

³ Vol. i, p. 461, vol. ii, p. 377, and other places.

⁴ Vol. i, p. 228.

⁵ Vol. i, p. 630, vol. i, p. 288.

⁶ Vol. i, p. 306.

⁷ Vol. i, p. 337.

⁸ Vol. i, p. 291.

tains of the city, within one month after their entry into office.¹ The Breve of the Smiths was corrected eleven times between 1279 and 1306; in the year 1298 alone, three times.² In this way the state secured publicity and exercised a very real control over the guilds. Moreover, each new Potesta of the city was bound to compel the heads of all the guilds to make the members of their guilds swear to observe their Brevia.³

Limitation of output, agreements in restraint of trade, or compulsion upon others to prevent their trading on as large a scale as possible, were strictly forbidden by the city.⁴ But in spite of this general prohibition, there are two entries in the Brevia of the Tanners, which seem to show a limitation of output by the guild. In one case it is forbidden to take more than sixteen hides from the tanning vat at one time;⁵ in another, only two hides of camels and "bufali" are to be taken at once.⁶ This, however, may have something to do with the technical processes of tanning.

A large part of the Brevia of the guilds is made up of regulations to insure honesty in weight, measure, and quality of the product, and these are constantly reinforced by city statutes. False cloths and adulterated saffron were confiscated. All wool and cotton sold had to be weighed by the public weigher.⁷ In measuring cloth, the standard measure of the Curia Mercatorum had to be used,⁷ and the cloth had to be measured in a prescribed manner. The balances of the smiths were inspected every six months by the Podesta of the city, accompanied by a master of the guild. If a balance was found to be false, the penalty was "for each ounce, one solidos."⁸ The measures of the vintners were inspected

¹ Vol. ii, p. 71.

² Vol. iii, p. 886.

³ Vol. iii, p. 866.

⁴ Vol. i, pp. 287 ff.

⁵ Vol. iii, p. 936.

⁶ Vol. iii, p. 942.

⁷ Vol. ii, p. 104.

⁸ Vol. iii, p. 871.

once a month by the consuls of the Vintners' Gild; here we have state supervision through consuls of a gild.¹ Regulation by the city was not concerned alone with weights, measures and quality. Public health and public policy also were considered. The butchers were given careful regulations in the interests of public health to prevent the selling of diseased meats, and to prevent the accumulation of refuse.² Vintners were to close their shops in times of riot; no gambling or gambling devices were allowed in their shops, and no young man or woman between the ages of seven and eighteen years might enter them.³

Information in considerable detail is available concerning the woolen industry. This had really outgrown the old gild organization, and developed a new system of industry within the shell of the older organization. It was divided between the *Curia Mercatorum*, and the *Arte della Lane*. The members of the *Curia Mercatorum*, the Merchants, were large importers of undyed, unfinished cloths of linen,⁴ of silk,⁵ and especially of wool,⁶ — "*panni franchisci de Ultramontes*." Attached to the *Curia Mercatorum* were groups of shearers and finishers, who finished these foreign cloths, and of dyers, distinct from the dyers and shearers of the *Arte della Lane*. Undyed cloth was also brought to Pisa by strangers. Such unfinished cloths, brought by strangers, had to be announced to the consuls of the *Curia*, and the consuls swore to divide these among the shops and dyers of the city for dyeing, or to "cause a just part of the pence to be restored among the dyers from those for cloths of strangers."⁷ This means apparently that if such cloths were not divided, the

¹ Vol. i, p. 422.

² Vol. i, p. 307.

³ Vol. i, p. 422.

⁴ Vol. iii, p. 17.

⁵ *Ibid.*

⁶ *Ibid.*

⁷ Vol. iii, p. 128.

dyers who were injured would receive a compensation. On each piece of cloth brought by a stranger, the consuls of the Curia Mercatorum received 12d. from the captains of the dyers.¹ The home dyeing industry was jealously protected. Anyone, whether a citizen or a stranger, who carried cloth from Pisa to Lucca to be dyed, and brought this dyed cloth back to Pisa, paid forty solidi for each piece.²

Some cloth seems to have been woven by a group dependent on the Curia Mercatorum; especially "barracan," a waterproof woolen cloth, and linen and silk.³ The actual manufacture of cloth, however, was in the hands of the Arte della Lane, the Wool Gild. The Arte della Lane, as we know it, was probably formed by a union of the various groups engaged in the production of wool and cloth. There is a trace of such union in the fact that there must be three consuls; one chosen from the lanaiuoli, one from the stamaiuoli, and a third either from the lanaiuoli, the stamaiuoli or the shearers.⁴ Who the lanaiuoli and stamaiuoli were will appear presently. The Arte della Lane, as has already been noted, was originally a craft gild and passed from the group of the craft gilds to the commercial and capitalist "ordines" in the period between 1254 and 1277. Some of its members even became members of the Ordo Maris,⁵ while the union and community of interest between the three Ordines was always strong.⁶ We may safely accept 1277 as the date by which the Arte della Lane had become capitalistic; and while it outwardly maintained the gild forms, industry was really carried on under the domestic system.

¹ Vol. iii, p. 128.

² Vol. iii, p. 35.

³ Vol. iii, p. 50, vol. iii, p. 60, vol. iii, p. 601. The references are very scanty.

⁴ Vol. iii, p. 651.

⁵ Schaube, *op. cit.*, p. 45.

⁶ Vol. iii, p. 724.

The lanaiuoli stood at the head of the industry; they were the capitalist entrepreneurs. As late as 1305, there were some lanaiuoli who were not masters but were classed with workers who work for wages.¹ Other lanaiuoli seem to be engaged in the business of combing wool and selling combed wool,² while the lanaiuoli who were the entrepreneurs employed wool beaters, shearers of fleeces and wool combers in their own shops.³ This may indicate that the lanaiuoli were originally preparers of wool — one of the initial crafts. In some way they secured control of the other processes. If this be true there is an analogous situation in Strassburg; the wool beaters, the initial craft, secure control of the industry.⁴ The lanaiuoli were not the only masters of the gild, for we hear of the stamiauoli and the shearers who might have consuls chosen from their number; but the lanaiuoli so completely dominated the gild that when a union of the *Ordo Maris*, the *Curia Mercatorum* and the *Arte della Lane* was made in 1305, the word lanaiuoli is used for the Wool Gild.⁵ All through the *Breve of the della Lane*, it is the lanaiuoli for whom the other groups work. The statutes do not make clear the place of the stamiauoli. They are mentioned only three times as yarn makers. It may be that they made yarn and sold it to the lanaiuoli, while at the same time, the spinners came directly to the lanaiuoli; or it may be that they had taken over other functions than yarn-making, and were not differentiated from the lanaiuoli.

The lanaiuoli had shops, and in them they employed shearers of fleeces, wool beaters and wool combers.⁶ The wool thus prepared was given to the spinners to spin. The spinner must come to the shop of the lan-

¹ Vol. iii, p. 735.

² Vol. iii, p. 689.

³ Vol. iii, p. 680.

⁴ Schmoller, G., *Die Strassburger Tuch und Webersunft*, pp. 418 ff.

⁵ Vol. iii, p. 688.

⁶ Vol. iii, p. 680.

aiuolus, and carry the wool to his own house to spin.¹ To spinners living in the city not more than twenty-five pounds of wool could be given at one time; to those outside the city, not more than fifty pounds, and more could not be given before the first was returned.²

The wool, spun into yarn, was returned to the master's shop, and the weaver came for it. The price to be paid to the weaver was agreed upon in the master's shop, when the weaver fetched the yarn. The weaver was to bring back the shearings with every piece of cloth; he was not to sell or pledge any yarn or shearings to any person, and he was held responsible for loss on the master's word.³ To protect the weavers, it was forbidden to any master to set up looms in his shop, or to weave cloth for others for pay; but the force of this was destroyed, in that the master was permitted to weave his own cloth.⁴ This is an indication that masters had looms in their shops. Just what was the condition of the weavers, we do not know, but there are several statutes which indicate that it was one of subordination. They were forbidden to make "any union or company which could be against the office of the consuls."⁵ For weaving cloth for pay, they were excluded from all other work of the gild, that is, they might never become masters.⁶ At the same time, they had workmen working for them in their homes.⁷ About these workmen we have only one bit of information: they could not depart from their master as long as they owed him money. Among the silk weavers of Lyons, we find an analogous situation; weavers working under the domestic system employed workmen, who were bound to them by a debt.⁸

¹ Vol. III, p. 688.

² Vol. III, p. 688. See also vol. III, p. 670.

³ Vol. III, p. 703.

⁴ Vol. III, p. 704.

⁵ Godart, J., *L'ouvrier en Soie*, Part I, pp. 136, 137 ff., 180 ff.

⁶ Vol. III, p. 707.

⁷ Vol. III, p. 708.

⁸ Vol. III, p. 707.

The statutes show that the evils of the domestic system were in existence. Prohibitions are constantly found against theft of the material and against the buying wool or cloth in any condition from anyone not a public master of the gild; and especially not from weavers.¹ The city government could be invoked to seize any person even suspected of having any stolen wool, yarn or cloth, and to compel the person to prove it was lawfully acquired.

When the cloth was returned by the weaver, it was sent to the fuller, to be fulled. To protect the fullers, it was ordered that no man could carry any cloth to the fulling mill except the fuller. He had to give surety to the gild (as did the dyer and sometimes the weaver) to protect the *lanaiulus* against loss. The maximum price was fixed at three *solidi* a piece for fulling. The fullers might not full any cloth, except for a public master of the gild, unless the consuls gave them permission,² nor might they have looms in their houses.³

Among the dyers, some owned their own vats, others rented them. We find expressions like the following: "dyers, who rent vats and do not work by means of capital." Such dyers rented their vats from other dyers; but "if no person places a vat at his disposal, he shall not place anything in a vat without permission of him, whose it is." The price to be paid for dyeing cloth was to be agreed upon between the dyer and the *lanaiulus*.³ They were forbidden to make cloth.

The cloth finishers worked in their own shops. They had workmen, who were forbidden to leave the em-

¹ Compare the English Statute of 1455, against theft by workers in the domestic system. Of course, the rule forbidding people to buy cloth from weavers may also have been intended to prevent the weavers from becoming independent masters; but the whole tenor of the statutes shows that theft of materials was the thing most guarded against.

² The ordinances for the fullers, vol. iii, pp. 707-711 incl.

³ Ordinances for the dyers, vol. iii, pp. 712-714.

ployers until these had been satisfied for the money which had been advanced. The workmen were expressly forbidden to receive cloth directly from a fuller — a check upon any production of cloth out of the hands of the masters.¹

The production of cloth was restricted, so far as we can judge from the statutes, to the public masters of the gild — the lanaiuoli, the stamaiuoli and the shearers. Every avenue of leakage seems to have been closed. Spinners could not spin, weavers weave, fullers full, except for masters. Fullers were forbidden to have looms in their houses, dyers were not to make cloth. In short, no man who worked for wages in the craft was to make cloth. Yet the very repetition of these prohibitions probably means that cloth was being made surreptitiously, and that the monopoly of the capitalist masters was being attacked.

In conclusion, two things should be emphasized. First, the organization of industry was in a mature form at the comparatively early period under consideration, parallel to and stimulated by the city's early commercial prosperity. Secondly, Pisa remained a commercial city; she was not preëminently a manufacturing center, like the cities of Southern Germany. Her main interests were commercial, and the craftsmen never gained the prominence and power of their brethren in the north. Hence checks were imposed on the gilds, and consequently the gild organization, tho mature, was arrested in its development. This arrested development is seen in several important particulars, which distinguish Pisan gild organization from that of the cities of Southern Germany, where development went on unchecked. The gild organization in Pisa is limited to a small number of crafts; and even in these, the

¹ Ordinances for the cloth finishers, vol. iii, pp. 715-717.

Zunftzwang, characteristic of the northern cities, did not exist universally. There were no heavy requirements for admission to the mastership, for those who had served the apprenticeship and for townsmen; no master-piece being required and the fees being small. City control was exercised not only by direct city supervision over the processes of the craft, but probably just as effectively by the requirement that gild statutes be submitted for examination and correction. This not only insured city control over the gild ordinances, but gave them publicity, a great factor then as now.

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MEDIATION AND ARBITRATION OF RAIL- ROAD WAGE CONTROVERSIES: A YEAR'S DEVELOPMENTS

SUMMARY

Firemen's Eastern movement, 361. — Conductors' and trainmen's Eastern movement, 364. — The Newlands act, 364. — Minor controversies, 368. — Engineers' and firemen's contemplated Western movement, 370. — Suggested amendments to the new law, 371.

THE year 1913 was one of great activity and of some progress in the settlement of railroad labor controversies. The Erdman act gave place to the Newlands act, which provides for a Board of Mediation and Conciliation, and for more satisfactory methods of procedure. There were two concerted movements in Eastern territory in which the firemen and the conductors and trainmen obtained, through arbitration, increases in rates of pay and changes in working conditions; and there were two supplemental awards, one defining the terms of the award in the firemen's case, and the other interpreting the award handed down in 1912 in the engineers' case.¹ There were also two arbitration awards of minor importance; one adjusting differences between the four train service brotherhoods and the Southern Pacific, Pacific System, in the matter of electric service; the other relating to wages and working conditions of firemen, conductors, and trainmen on the Chicago and Western Indiana and the Belt Railway of Chicago. A strike of engineers and

¹ See Cunningham, "The Locomotive Engineers' Arbitration," in this Journal, xvii, pp. 263-294. For a detailed account of the mediation and arbitration movement prior to 1912, see the monograph by Dr. Charles P. Neill, in *Labor Bulletin*, no. 98.

firemen on the Bangor and Aroostook resulted in victory to the management, which had declined an offer of mediation; and on the Southern Pacific, Atlantic System, a strike of engineers, firemen, conductors, and trainmen was brought to an end through mediation. In Southern territory a dispute between the engineers and the Queen and Crescent lines was adjusted through mediation. At the close of the year, arbitration proceedings were under way to settle a controversy arising from the proposal of a new working agreement by the conductors and trainmen on the Burlington; and preparations were being made by the engineers and firemen for a concerted movement for a complete revision of schedules in Western territory.

It will be remembered that in 1912 the Eastern railroads were unwilling to arbitrate the engineers' demands under the Erdman act, and the controversy was settled by an extra-legal board of seven men (five representing the general public). The award in that case was so unsatisfactory to the railroad brotherhoods generally that when, early in 1913, the firemen presented their final demands to the Eastern railroads, they insisted upon arbitration under the law, whatever its defects; and the railroads, after making several counter propositions,¹ yielded under protest. Hearings were held in New York from March 10 to April 5, and the award, affecting the interests of 31,000 men, was handed down on April 23.²

The case of the firemen was presented by their president, W. S. Carter, who asked for uniform rates of

¹ To grant advances (about five per cent) relatively the same as those awarded in the engineers' case; to arbitrate through a board of seven, as in the engineers' case; or to arbitrate through a board of six, representing equally the firemen, the railroads, and the public.

² The arbitrators were: W. L. Chambers, Washington, D.C.; W. W. Atterbury, vice-president, Pennsylvania Railroad; and Albert Phillips, third vice-president, Brotherhood of Locomotive Firemen and Enginemen.

wages and uniform rules of employment, except that where rates were already higher or rules more favorable than those demanded, they should be maintained; and for increases in rates of wages and changes in certain rules, except where they were already better than those demanded. These demands were embodied in a series of ten articles, which provided for: (1) a definition, in terms of hours and miles, of a day's work; (2) minimum rates of wages for firemen classified according to engine weights on drivers, and for hostlers and for helpers on electric locomotives according to the nature of the service; extra compensation at a flat rate for firemen in local freight service; two firemen on all engines of 200,000 pounds or over in through freight service; (3) more liberal basis of computing overtime; (4) payment for initial and final terminal delay; (5) computing of continuous time in cases of absence from home terminals after fifteen hours; (6) supply of coal in the tender where it could be reached from the deck of the engine on all trains having but one fireman; (7) relief from work not a necessary part of a fireman's duties; (8) payment for time tied up between terminals; (9) continuation of existing rates and rules better than those demanded; and (10) the award to be effective as of July 1, 1912, the date when the demands were originally presented.

In support of these propositions it was urged that uniformity of rates and of rules should be granted without reference to the comparative wealth or poverty of the various railroads, and with sole regard to the fair deserts of the men; that while the introduction of larger locomotives had added to the labors of the firemen and increased their productive efficiency, there had been no corresponding increase in wages, altho the cost of living had substantially increased. The

request for a second fireman in through freight service was based upon the theory that the resulting increase in tractive efficiency would produce revenues more than adequate to provide for the increased wage burden. On the other hand, Elisha Lee, chairman of the Conference Committee of Managers, contended that uniformity would result in unjust obligations upon the weaker lines, and that the presence of a saving clause among the articles was inconsistent with the plea for uniformity. He declared, moreover, that it had been the practice of leaders of railroad labor to use the concessions made by one railroad or by the railroads of one territory as the basis of claims elsewhere, and that uniformity was therefore impossible. The claim of the firemen that their work should be measured upon the basis of engine weights, he assailed on the ground that the large, modern engines are equipped with improved labor-saving appliances not found on the older types. He admitted that in certain instances an extra fireman would be desirable, but contended that such cases should be made the subject of local conferences. Each side called many witnesses and submitted elaborate statistical exhibits. The testimony alone amounted to over two thousand printed pages.

The award granted advances in wages amounting to about eight per cent, or slightly more than had been offered by the railroads, but much less than had been sought. It approved the principle of uniformity within the Eastern territory, and also the practice of computing wages upon the basis of engine weights on drivers. It granted a part of the requests for payment for overtime and for terminal delay. It outlined the procedure for determining the necessity for a second fireman; and it relieved firemen from such work as cleaning engines and procuring tools. Under the law the award became effective as of May 3, 1913.

In the meantime the conductors and trainmen in Eastern territory were presenting demands for increased wages, which were refused on the ground that existing rates were liberal and working conditions favorable. The men proposed arbitration under the federal law, but this was refused on the ground that the interests involved in the controversy were too great to entrust to a board of three arbitrators, since the decision must depend upon the vote of one man. While the leaders of the conductors and trainmen were polling their men on the question of calling a strike, the Newlands bill was introduced in Congress, and at a hearing held in Washington on June 20, representatives of the brotherhoods and of the managers indorsed the measure and agreed to submit their differences to arbitration when the proposed changes should be made in the law.¹ In the absence of opposition from any source, except on matters of detail, the bill was pushed through Congress, and on July 15 it became a law.

Under the Newlands act, the number of arbitrators may be either three or six, according to the importance or magnitude of the controversy. A Board of Mediation and Conciliation is established to take over the duties which had been performed by Judge Knapp and Dr. Neill in *ex officio* capacity. The new board is made up of a commissioner, an assistant commissioner, and not more than two other officials of the government serving *ex officio* as needed.² The law is more elastic than its predecessor in its provisions governing the time in which arbitration hearings shall be held, and the period in which the award shall be effective. It declares that awards in the future must be confined to

¹ Mediation, conciliation, and arbitration in controversies between railway employees and their employers. 63 Cong., 1st Session, Senate Rep. 72.

² The board consists of W. L. Chambers, commissioner; G. W. W. Hanger, assistant commissioner, and Judge M. A. Knapp.

questions specifically submitted to arbitration or matters bearing directly thereon, — a result of the criticisms of the award in the engineers' case. It provides that the parties to an arbitration may set forth in the stipulations that disputes growing out of the interpretation of the award may be referred back to the board of arbitration or a sub-committee thereof for supplemental action.

When the time came to draw up the stipulations under which the demand of the conductors and trainmen should be arbitrated, the Conference Committee of Managers submitted eight counter propositions for consideration by the arbitrators. These were withdrawn upon the vigorous protest of the labor representatives.¹

Hearings were begun in New York on September 11, and continued through October 10. The award, effective as of October 1, was filed on November 10. About 23,000 conductors and 63,000 trainmen were concerned.²

The articles in the case, seventeen in number, were technical and complex, hence difficult to restate ac-

¹ As they are certain to reappear in future controversies, they are given here in full: 1. When a minimum day's wage is paid in any class of service it shall entitle the railroad to the full mileage or hours of service paid for. 2. In no case shall double compensation be paid. 3. For fixing the basis of compensation — i.e., whether passenger, through or local freight, yard, etc. — the same classification shall be applied to all members of the train crew. 4. All monthly guarantees shall be abolished. 5. That consideration be given to a reduction of existing rates of pay of yard brakemen and of passenger conductors and trainmen on long continuous runs where there is an opportunity to make excessive mileage in a limited number of hours. 6. Employees in two or more classes of service on continuous duty or under continuous pay shall be paid the rates applicable to the different services performed with a minimum equal to ten hours at the lowest paid service. 7. On passenger and freight trains where, under extra crew laws, additional men are required, the rate of pay for all brakemen shall be twenty per cent below rates established for brakemen on trains not affected by such laws. 8. The rates and rules awarded by the arbitration shall supersede rates and rules now in effect which are in conflict therewith.

² The arbitrators were: Seth Low, president, National Civic Federation; John H. Finley, president, College of the City of New York; W. W. Atterbury, vice-president, Pennsylvania Railroad; A. H. Smith, senior vice-president, New York Central Lines; L. C. Sheppard, senior vice-president, Order of Railway Conductors; and D. L. Cease, editor, *The Railroad Trainman*.

curately in general terms. They provided for: (*a*, *b*, and *c*) minimum rates of wages, and monthly guarantees, and a basis of computing overtime in passenger service; (*d*) assurance that benefits obtained through arbitration should not be offset by reductions in crews or increases in mileage assignments; (*e* and *i*) increases for special or incidental service on the basis of increases granted for regular service; (*f*, *g*, and *h*) minimum rates of wages in the various classes of freight service, and overtime as time and one-half in regular freight service; (*j*) a definition, in terms of hours and miles, of a day's work in freight service; (*k*) monthly guarantees in freight service; (*l*) payment of full rates for "dead-heading" service; (*m*) payment of unassigned freight crews held at other than their home terminals after twelve hours; (*n*) payment of time and one-half to crews on double-headed trains, and of double time in cases where either or both engines used are of the Mallet type; (*o*) payment of "Chicago standard" rates of pay in yard service, and of overtime as time and one-half; (*p*) assurance that existing earnings of conductors or trainmen should not be diminished in any case by the provisions of the award; and (*q*) assurance that existing schedules or agreements not specifically amended by the award should be unchanged.

The case of the conductors and trainmen was presented jointly by A. B. Garretson, president of the Order of Railway Conductors and W. G. Lee, president of the Brotherhood of Railroad Trainmen. The argument followed the same general lines as in the firemen's case: uniformity of wages and of rules not only within Eastern territory, but throughout the country; increases in wages upon the ground of increased labor, risk, and responsibility; increased productive efficiency; and increased cost of living. For the Conference

Committee of Managers, Elisha Lee flatly denied that conditions had changed sufficiently since the Clark-Morrissey award in 1910¹ to warrant any increase whatsoever. As in the firemen's case, he attacked the principle of the saving classes (*d*, *p*, and *q*) as inequitable and inconsistent with the plea for uniformity. Many witnesses were called, and voluminous statistical exhibits were introduced by both sides. The testimony exceeded in volume that taken in the firemen's case.

The award authorized increases amounting to about seven per cent, or less than half what had been demanded. This advance was based largely upon the increase in cost of living in the three years since the Clark-Morrissey award. The plea for uniformity as between Eastern and Western territories was disallowed.

This Board believes that before a standardization of pay for conductors and trainmen can be brought about between the East and the West, the organizations concerned should formally and officially commit themselves to the policy of standardization between East and West. In the absence of such an accepted policy, were this Board to place the pay of conductors and trainmen in the East, as they are asked to do, on the Western basis, such an increase of the wage scale in the East might serve, in the prevailing opinion of the Board, to bring about a new movement in the West to secure the old differential against the East.

A recommendation was made, however, that "some public authority authorized by Congress" should make an inquiry into the matter; and it was suggested that the Commission on Industrial Relations might undertake the work. The increased productivity of train crews, whether through double-heading or otherwise, was admitted; but this was attributed to increased efficiency of management rather than to conscious

¹ See Cunningham, in this Journal, xxvii, pp. 276-277.

effort of the men. The request for time and one-half and double time for such service was therefore denied, as was the request for overtime as time and one-half in certain varieties of service, upon the ground that in railroading overtime cannot be prevented either by the management or by the men, and "that punitive overtime, as it is called, is an unsound principle when applied to the running of trains." As to the effect of the award upon the railroads and the public, the board said:

This Board . . . believes that it must make its finding as to what is a proper rate of pay to be awarded . . . without any reference to the dilemma in which the railroads are evidently placed by the laws which make it impossible for them to increase passenger and freight rates without the authority of the Interstate Commerce Commission, or of the Railroad Commissions of the various states. . . . The Interstate Commerce Commission, and not this Arbitration Board, has the duty of determining whether the railroads can earn, in addition to their other charges, without an increase of freight rates, the rates of pay that this Board believes to be due at the present time to the conductors and trainmen.

The other railroad labor controversies of 1913 which have been mentioned do not call for extended notice here, since those which were of any great importance have been continued into the present year. In the case of the Chicago and Western Indiana and the Belt Railway of Chicago, a board of three¹ ordered some changes in working conditions, but denied the requests for increases in rates of pay, except in work service, partly on the ground of comparison with rates paid by other lines similarly situated and partly because of inadequacy of evidence. The representative of the employees dissented. This award was filed on September 16.

¹ The personnel of this board was: E. S. Huston of Washington, D.C.; F. A. Burgess, assistant grand chief, Brotherhood of Locomotive Engineers; and W. J. Jackson, president, Chicago and Eastern Illinois Railroad.

The arbitration on the Pacific System of the Southern Pacific road arose out of a controversy having to do mainly with the classification of employees on certain electric lines about San Francisco bay operated on street railway franchises. The management contended that the conditions of service warranted an official distinction between such employees and those engaged on the other electric (suburban) lines of the company. Most of the points at issue were adjusted through mediation, but the determination of what constitutes street car service was left to a board of arbitration of three men,¹ which decided, October 18, in favor of the management by majority vote.

Questions of discipline were chiefly involved in the differences between the Southern Pacific, Atlantic System, and its employees in train service. The four brotherhoods, having failed to obtain satisfactory results through individual conferences with the management, pooled their issues and presented a joint list of sixty-seven grievances for adjustment; but the management stated its willingness to confer jointly only as to matters of joint concern. It also submitted a communication which contained practically the same counter propositions as those which the Conference Committee of Managers had presented to the conductors and trainmen in the Eastern wage dispute. It appealed to the Board of Mediation and Conciliation, and so notified the representatives of the employees, but a strike was ordered on the ground that there were no matters which were proper subjects of mediation. As a result 2,500 men were out from November 13 to 17, when a settlement was arranged to the effect that the management would meet the joint committee and take

¹ John F. Davis, of San Francisco; M. E. Montgomery, vice-president, Board of Locomotive Engineers; and W. R. Scott, general manager, Southern Pacific Company.

up each grievance, with the understanding that in case of disagreement the whole matter would be referred to the Board of Mediation and Conciliation.

A board of six arbitrators¹ assembled in Chicago in November to consider thirty-nine articles proposing a revision of the schedules affecting conductors and trainmen on the Burlington. The date fixed for filing the award was February 1, 1914.

The railroads in Western territory were confronted in October by a joint demand for a revision of schedules affecting the engineers and firemen,² and in return they abrogated the existing schedules. The effect of this move was to put an end to all rates of pay and rules of employment better than those demanded; thus forestalling the attempt of the employees to "standardize upwards" through the application of a saving clause in the articles to be presented for arbitration. This was the situation at the end of the year. It is a situation which presents several interesting aspects that should be noted. Here are two brotherhoods, between which there have been many differences, now united under terms of a formal working agreement. That the conductors and trainmen saw fit to withdraw from what had been proposed as a general movement of the train service brotherhoods may be due to the fact that at the time the matter came up for decision, the award in the Eastern concerted movement was being determined, and the necessity for conservatism was sufficiently apparent in view of the fact that standard-

¹ Henry S. Boutelle, of Chicago; G. J. Diekema, of Holland, Michigan; E. P. Curtis, vice-president, Order of Railway Conductors; E. L. Harrigan, of the Brotherhood of Railroad Trainmen; P. H. Morrissey, assistant to the president of the Burlington; and Fairfax Harrison, president of the Chicago, Indianapolis, and Louisville Railway (succeeded by Pierce Butler of St. Paul upon resignation to accept election to the presidency of the Southern Railway).

² The proposed schedules are given in full in the *Railway Age Gazette*, lv, pp. 825-826.

ization as between East and West had occupied such a prominent place in that case. The attitude of the railroad managers is also significant. They insist that if they must arbitrate, they too must stand to win concessions, and that rates and rules unfavorable to them must be considered by any board which would change those which are unfavorable to the employees. It is obvious that if this contention is not sustained, the federal law as it stands can hardly be expected to serve its purpose, — namely, to prevent injury to the public interest through interruption of the transportation service.

A number of suggestions have been made as to amendments to the Newlands act. One, proposing the extension of its terms to provide for the settlement of disputes between industrial corporations, subject to the authority of Congress, and their employees, may be disregarded here as irrelevant to the subject of this paper. The suggestion, from a railroad source, that the scope of the act be widened to apply to all classes of railroad men engaged in the interstate business of their employees is worthy of consideration. But without hazarding a prediction as to the attitude of the courts toward such a provision, its practical application would be extremely difficult. Such an amendment, if constitutional and practicable, would have one certain result; it would force the employees concerned into closer bonds of organized labor. For unorganized labor cannot take advantage of the Newlands act except through some form of organization. Another suggestion is to associate the Board of Mediation and Conciliation and the Interstate Commerce Commission, either in coördinate or subordinate relation, to the end that the tribunal responsible for increasing wages should be also responsible for adjusting rates

so as to meet the increased expenses. But this implies that there is such a delicate balance in the finances of a railroad that a slight increase in expenses will throw the whole out of adjustment. Fortunately, such is not the case; and if it were, the burden imposed by a board of arbitration, chosen under the present arrangement, would hardly produce such an effect. The award in the case of the conductors' and trainmen's Eastern movement provided for an annual increase of \$6,000,000 in wages; this stated in terms of operating expenses means only about 0.8 per cent. Furthermore, the suggestion ignores the fact that the Board of Mediation could obtain wage increases for employees only as concessions from the management. It is the board of arbitration in a controversy and not the Board of Mediation that has authority to increase wages; and after an agreement to arbitrate has been signed and the arbitrators have been appointed and qualified, the Board of Mediation has no further jurisdiction in the matter beyond final custody of the documents connected with the case.

The Newlands act has not yet been sufficiently tested to determine its efficiency or to demonstrate the need for its modification or elaboration. If under its operation the awards of the arbitrators come to command public confidence to an extent that neither party to a dispute will dare assume responsibility for open hostilities, the law will have accomplished its purpose.

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NEW YORK.

REVIEW

KEYNES' INDIAN CURRENCY AND FINANCE¹

THIS book, by the editor of the *Economic Journal*, stands in the first rank among the numerous books on Indian currency that have appeared since the report of the Fowler Committee of 1899. Shortly after the chapters of the book were written, the author was appointed a member of the Royal Commission (of 1913) on Indian Finance and Currency.

"If my book had been less advanced," he says in the preface, "I should, of course, have delayed publication until the Commission had reported, and my opinions had been more fully formed by the discussions of the Commission and by the evidence placed before it. In the circumstances, however, I have decided to publish immediately what I have already written, without the addition of certain other chapters which had been projected."

It is not as a historian of Indian currency that the author writes, but rather as a scientific interpreter and critic of the currency system as it is and as it has recently developed. Among the eight topical chapters which constitute the book the three that contribute most that is of a general interest to the subject are those dealing with "The Gold-Exchange Standard," "The Present Position of Gold in India and Proposals for a Gold Currency," and "Indian Banking."

In the chapter on the Gold-Exchange Standard, Mr. Keynes shows how that standard, proposed for India as early as 1876 by Mr. A. M. Lindsay, of the Bank of Bengal, and for more than two decades most ably defended by him, was rejected by the British authorities, only to become later, through administrative orders, "the head of the corner."

¹ *Indian Currency and Finance*. By John Maynard Keynes. London: Macmillan, 1913. Pp. viii, 263.

He maintains that the gold-exchange standard is not in the currency world of today an anomalous standard, as is generally supposed, but merely one that "carries somewhat further the currency arrangements which several European countries have evolved during the last quarter of a century . . ." (p. 29). What he has in mind is the practice followed by the central banks in certain European countries, of keeping in their portfolios a supply of short time foreign bills as a sort of secondary gold reserve for use in times of emergency. Nations like England, which are strongly creditor, need not resort to this practice, and may rely upon varying their Bank discount rates to attract gold or to hold it; but nations that are strongly debtor, like Russia, Austria-Hungary, and the great trading nations of Asia, he says, must deliberately adopt this practice or resort to the alternative of "a much larger reserve of gold, the expense of which would be nearly intolerable" (pp. 26 and 27).

The reviewer is unable to see the close fundamental likeness which Mr. Keynes finds between the gold-exchange standard and this practice of holding foreign bills. Under the gold-exchange standard, the government sells drafts against its foreign gold credit (*i. e.* its gold reserve), when money at home is relatively redundant, as evidenced by exchange having reached the gold-export point. Thereby it relieves the redundancy through withdrawing from circulation and locking up the local money received in payment for the drafts. Under the practice of holding foreign bills to protect the money market, the central bank sells its foreign bills, when money at home is relatively scarce, as a means of securing gold for importation or of preventing its exportation. In the former case the sale of drafts takes the place of an exportation of gold, and the resulting withdrawal of local money from circulation is in essentials an exportation; in the latter case the sale of the drafts abroad is part of a process for securing gold for importation or for preventing its exportation.

Mr. Keynes' assertion in connection with the gold-exchange standard, that the United States in dealing with her dependencies has "imitated, almost slavishly, India" (p. 27,

note), cannot be substantiated. The Philippines have a simpler and purer form of the gold-exchange standard than has India. The Indian system has various complicating elements: the sale of council bills for fiscal purposes; the paper money reserve, whose functions decidedly overlap those of the gold standard reserve; and the absence of anything like as rigid and automatic requirements as the Philippines possess for adjusting the monetary circulation to the norms demanded by a strict gold standard. The gold-exchange standard, moreover, was put into complete operation in the Philippines on October 10, 1903, *i. e.*, before the Secretary of State for India issued the notification of 1904, expressing his willingness to sell council bills on India at 1s. 4½d. per rupee without limit. In the Philippines, the requirements for redemption in drafts are essentially legislative and mandatory; in India they are administrative and optional. The Philippines did follow very closely the principles of the gold-exchange standard based upon Ricardo, as those principles were developed by Mr. A. M. Lindsay. These were the principles, however, which India formally rejected in 1899, and toward which she has been moving ever since, tho with a slow and halting step.

The Fowler Committee in its report of 1899 said (p. 16):

"We are in favor of making the British sovereign a legal tender and a current coin in India. We also consider that, at the same time, the Indian Mints should be thrown open to the unrestricted coinage of gold on terms and conditions such as govern the three Australian Branches of the Royal Mint."

British gold was declared legal tender at the rate of 15 rupees to the sovereign in 1899, and measures were immediately taken under consideration looking toward the establishment of a branch of the Royal Mint at Bombay. Proposals to this end were accepted both by the Secretary of State for India, and by the Viceroy's Council. An attempt in 1900 to force sovereigns into circulation proved unsuccessful; the sovereigns were rapidly exported, returned to the government, or hoarded. Since that time there has been some progress

in the introduction of gold coins into circulation, particularly in Bombay and the Punjab, altho in the greater part of India the use of gold coin is still negligible and is liable to continue so for a long time to come. Despite repeated efforts by the Indian Government, and a voluminous correspondence between the Indian Government and the British Treasury, no branch of the Royal Mint has yet been established in India for the coinage of gold money. Apparently the British Treasury early made up its mind that the establishment of such a mint in India was undesirable, and undertook to wear out the patience of the Indian Government by raising all sorts of technical objections.

Mr. Keynes is opposed to the establishment of a mint at Bombay for the coinage of gold, and sees little to be gained and much to be lost from infusing gold coins into general circulation. The proper place for the gold, he maintains, is not in circulation, but centralized in reserves. Gold coin in circulation is practically unavailable to meet foreign demands for gold. Furthermore, the substitution of gold coins for silver rupees or rupee notes in the circulation would lessen the profits realizable from seigniorage on rupee coinage and from interest on the invested portion of the paper money reserve; and, since "it is the fiduciary coins with which the public are most eager to part" in time of crisis, "the infusion of more gold into circulation would . . . not correspondingly reduce the amount of . . . reserves which Government ought in prudence to keep" (p. 91). Furthermore, it is desirable to encourage the popularity of notes in a country like India, where checks are not likely to be used for many years to come to a dominating extent, since "it is only thus that a proper degree of seasonal elasticity can possibly be secured" (pp. 96 and 97). India, moreover, already wastes large resources in the needless accumulation of the precious metals, and the Government ought not to encourage in the slightest degree this ingrained fondness for handling hard gold (p. 101).

Few of the many books on Indian currency contain much information about Indian banking. One of the merits of

Mr. Keynes' book is a good chapter on this subject — a subject that seems destined to come into greater prominence in the near future. In several respects India's banking troubles are similar to those of the United States. Her banking system is decentralized; her trade demands are highly seasonal in character, while she has no elastic bank-note system to act as a buffer; her government revenues are large, and the fact that varying amounts of government funds are kept on deposit in the few Presidency banks or hoarded in the government treasuries creates a disturbing factor in the money market. Banks in India are poorly regulated, and most of them have been increasing their deposits in recent years much more rapidly than their reserves or their capitals. There are growing up in various parts of India numerous so-called banks which in America would be characterised as "wild cat banks of the worst sort."

At present there is much agitation for a state bank in India. The Indian Government is already performing many of the functions of a central bank, in connection with such matters as note-issue, the management of government cash balances, and the regulation of the foreign exchanges. "Other benefits," says Mr. Keynes, "cannot be obtained easily, so long as these functions are utterly divorced from those of banking proper" (p. 236). The only adequate solution of the difficulty he finds in the establishment of a state bank, not on the model of the Bank of England, but rather upon that of some such bank as the Reichsbank, the Bank of Holland, or the Bank of Russia.

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THE TRUST PROBLEM¹

SUMMARY

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I

THE NECESSITY OF PROHIBITION OR REGULATION

In these lectures, we shall confine ourselves to the consideration of trusts and pools, without attempting to cover the whole field of monopoly or of contracts in restraint of trade. The term trust will be used to describe the closely-knit combination or consolidation.

¹ Lectures delivered at Harvard University, in April, 1914.

The most familiar forms are three: first, the combination through the holding of stock by trustees, once so common, but now disused; second, the holding corporation; and, third, the corporate merger, in which a single company acquires direct title to the property of the combining concerns. Most people use the term trust essentially to cover combinations of these three classes, altho sometimes it is applied to any kind of combination or any case of supposed monopoly. Under the trust, the entire business of the combining plants, including productive processes as well as marketing policy, is subject to a single control.

On the other hand, we shall use the term pool to designate any combination of previously competing plants which retain their independence with respect to the processes of production. Strictly speaking, the word pool implies division of output or of profits among the constituent concerns. For brevity, however, even at the expense of strict accuracy, it may be employed more broadly to include agreements as to prices, even where there is no division of the output. As a matter of fact, most price agreements involve a more or less definite division of business, since without it the maintenance of prices is very difficult.

It is customary to use the term "industrial combinations" as synonymous with trusts and pools. There are, however, many combinations which possess only a minor fraction of the business in which they are engaged, which have no monopolistic intent and no possibility of exercising any monopolistic power. The trusts and the pools, in the sense in which we shall use the terms, have been organized primarily in the hope of securing monopolistic control of prices. How far they have been able to realize this purpose is one of the main questions for our consideration. In some cases, for brevity, we shall

use the term "combinations" to designate trusts and pools, but when doing so, we have in mind only those combinations which have taken in a large proportion of the plants in their respective industries and have aimed at monopoly.

The recent rapid growth of trusts has so focussed public attention that the importance of pools is often overlooked. The number of pools has been, and still remains, far greater than the number of trusts. They probably affect a larger volume of business. Many of the arguments as to the effects of combinations, their advantages and disadvantages, which apply to trusts, do not apply to pools.

/ There are at bottom only three possible ways of dealing with trusts and pools. / We may seek to prevent them from competing unfairly and to deprive them of special privileges giving an advantage over competitors, but otherwise leave them alone. / Practically no one, I take it, would favor the plan of not even placing restrictions upon their methods of competition or seeking to deprive them of special privileges. Second, 2. we may permit trusts and pools to exist but regulate their prices and profits. Third, we may undertake to destroy them. The broad problem before the American people is the choice among these three policies, — laissez faire, regulation, and prohibition.

In my opinion, the first of these policies is inadequate. I shall attempt to show in the present lecture that it is desirable either to regulate the trusts and pools, or to destroy and prevent them as best we can. In subsequent lectures I shall consider the relative merits of regulation and prohibition.

Many believe, — economists and others, — that the trust or the pool cannot, merely by virtue of combination, maintain such monopolistic power as to injure the

public. They hold that the power of such combinations, so far as it exists at all, rests mainly on unfair competitive methods or on special privileges, such as the possession of some natural or patent monopoly. They believe that in the absence of these "unfair" advantages competition, actual or potential, will serve to hold the prices charged by trusts and pools at a reasonable level. All we need is to draw the teeth of the combinations. The combination may indeed maintain excessive prices for a time. Before long, however, competitors will arise and force prices down again. Ultimately, continues the argument, the combination will either lose its controlling proportion of the business, or it will adopt the policy of maintaining prices so low that competitors will not be tempted to come into the field.

Experience lends some support to this position. Many a pool has gone to pieces in the past as the result of the attempt to maintain exorbitant prices. Not a few among the trusts have a smaller proportion of the business in their fields today than they had at the time of their organization. Others have maintained moderate prices. It is perfectly true, moreover, that the trusts which have been most powerful have been those which used unfair competitive practices or possessed natural or patent monopolies. The Standard Oil Company, for example, has almost continuously been able, throughout the greater part of the country, to extort prices far above a normal competitive level. The Standard Oil Company has probably outdone every other combination in unfair competitive practices. It has also been aided by the element of natural monopoly in pipe-line transportation and in tank-wagon delivery.

It must be conceded, then, that the power of a combination, merely as such, to maintain monopoly prices is not without limit. Competition is a restraining

influence. But those who would have us keep hands off the trusts and pools must prove much more than this. They must prove that it is possible to prevent combinations from using unfair competitive methods and to deprive them of special sources of monopoly power. They must prove that, if this is accomplished, the combinations will possess practically no monopoly power whatever, that on the average and in the long run they can maintain prices *no* higher than would prevail if combinations were destroyed. The fact that competition will bring down prices next year to a reasonable level is not sufficient comfort for the consumers who are paying exorbitant prices this year. The fact that a trust in one industry charges reasonable prices in order to ward off competition will not quiet the complaints of the consumers of the products of another combination which adopts the opposite policy.

There can be no conclusive generalization from experience regarding the effect of combinations upon prices, still less regarding the ability of combinations to maintain monopoly prices in the absence of unfair competition and special privileges. For this there are several reasons.

In the first place, there has been no complete investigation of the multitude of trusts and pools. The thoro investigations of the Bureau of Corporations have covered only a half dozen industries. Other less elaborate investigations, official or private, have been made, but the results of most of them are inconclusive. Many fields have not been touched at all.

In the second place, law and public opinion have had an important effect in restraining the monopoly power of trusts and pools. Up to about fifteen years ago, there were very few trusts. The pool was the common form of combination. Even before the enactment of the Sherman law in 1890, and of the various state anti-

trust acts, most of which were passed at about that date, pooling agreements were void and unenforceable under the common law. There was nothing to prevent their members from breaking away. Since the passage of the anti-trust acts, pools have been criminal as well as unenforceable. If pooling were legalized, if pool agreements were made enforceable, the power of pools might be much greater than it has been in the past.

In any case, we cannot judge the monopoly power of the trusts from past experience with the pools. From the trust no member can possibly break away. But we have had no adequate test of the monopoly power of trusts unrestrained by law. Practically the entire history of the trusts is comprised in the period since the Sherman act was passed. They have operated under the ban of law. That fact has affected their price policies and their policies with respect to the acquisition of competitors. The effect must have been appreciable even in the earlier days, when the anti-trust laws were not being actively enforced. It has been powerful during more recent years, when suits in equity and indictments against trusts have been almost weekly events. The trusts have not dared to fight their competitors so vigorously or to annex them so freely as they would have done in the absence of restrictive legislation. They have hardly dared to maintain prices as high as they have had power to do. They have feared dissolution. They have feared criminal prosecution. They have desired to curry public favor with a view to securing amendments making the laws less rigid. What they would or could do if given free rein cannot be judged by past experience.

In the third place, a satisfactory study of the effect of trusts and pools on prices during recent years is made particularly difficult by the extraordinary changes which

have taken place in industry generally. There was a long period of high prosperity, of rapidly advancing prices, and of rapid changes in methods of production, not merely in trust controlled industries, but in industries generally. It is, therefore, quite impossible to determine the effect of a trust on prices by merely comparing the prices before and after the formation of the trust. It is necessary in each case to enter into the most elaborate details as to the prices of materials, the rates of wages, the methods of production and the movements of demand.

Some have sought to measure the influence of trusts merely by comparing the movement of prices in industries in which trusts exist with that in other industries. The prices of farm products are often used for such comparison. On the average the prices of agricultural products have advanced more than those of trust-made articles. Comparisons of this sort, however, prove absolutely nothing. The disparity between the growth of population and that of agricultural production has caused an extraordinary increase in the prices of farm products. Of course other factors besides the presence or absence of combinations affect the relative price movements of individual commodities or groups of commodities. Under conditions of freest competition the price of one product may go up while that of another goes down, or the price of one may go up far faster than that of the other. The sole question at issue is whether the price of the particular commodity made by a particular trust has gone up more or has fallen less than it would have done in the absence of combination. That question, as already suggested, can be settled only by the most elaborate investigations.

Finally, even if we possessed far more information than we do on the history of prices under trusts and

pools, we should still be unable to determine satisfactorily to what extent such power as these combinations were found to possess over prices was attributable to unfair competitive methods or to special privileges such as natural or patent monopolies. Unfair competitive practices are largely secret. Railroad discriminations, for example, are comparatively seldom brought to light. We shall never know how far combinations and pools in the past have used unfair methods. Even if we did know all about these practices and all about the special privileges enjoyed by combinations, it would be merely a question of opinion to how far power over prices was attributable to them, except in cases where no unfair practices and no special privileges had existed.

The truth is that a final answer to the question whether trusts and pools, merely by virtue of combination, can maintain monopoly power and can on the average keep prices higher than those prevailing under strictly competitive conditions, would be possible only as the result of a wide-reaching and prolonged experiment. The nation and the states would have to repeal their anti-trust laws and substitute merely laws for the prevention of unfair competitive methods and the removal of special monopoly privileges. Then, perhaps, after a long period of years, we could determine approximately the advantages or disadvantages of unrestrained liberty to combine. It is such an experiment, apparently, that some would have us undertake. The chief objection to it would be the difficulty of dropping the experiment when we had learned its lesson. If it were found that trusts and pools under such conditions were injurious to the public interests, it would be almost impossible to break them up and to return to a régime of general competition.

Are we then to reach the conclusion that we know nothing about the ability of trusts and pools to obtain excessive prices if unaided by unfair competitive methods or special advantages? Must we give up the solution of the trust problem at the outset? I think not. There is enough evidence at least to indicate the probability that combination of the greater part of the concerns in an industry, merely as such, gives an appreciable degree of monopoly power.

In the case of a good many trusts and pools we have reason to believe, either from the mere nature of their business or from the results of investigation, that unfair competitive methods and special monopolistic features have not been important factors. Yet in some such instances monopolistic prices have been maintained for greater or shorter periods of time.

Pools are much less able than trusts to use unfair competitive methods effectively. This is the natural result of the fact that the pool is not under unified management. Take the matter of railroad discriminations, for example. The pool ordinarily does not deal with the railroads as a unit. It has no officer or organization for that purpose. The individual members either pay the regular freight rates or separately negotiate for special rates and rebates. As individual concerns, the members of a pool are not in a stronger position to secure railroad favors than the outside concern. The practice of price discrimination also requires, in order to be an effective agent for destroying competition, a degree of centralization in marketing such as seldom exists in the pool.

Moreover, in most cases, the pool as such can have no peculiar monopoly privileges. Only in case the single members together possess the whole of some limited natural resource, or together possess all the patents on

which a given business is dependent, can their combination have a peculiar advantage over outside concerns. It could readily be shown that, in the case of most pools, no such conditions exist.

Nevertheless, even pools have often exercised a powerful monopolistic control over prices. The successive pools in the powder business, the pools of salt manufacturers, the pools of iron and steel manufacturers, notably the wire-nail pool of the 90's, the more recent pools in certain specialized branches of the wire industry — these and a number of others are known to have advanced prices greatly. It is not sufficient to say that in most or even in all cases the excessive prices have been only temporarily maintained. It must be shown that during the ensuing period of competition the prices were enough below the normal level to offset the monopoly prices of the preceding period. This cannot be shown; the facts, at least in a good many cases, have been otherwise. The public has been forced on the average to pay excessive prices as the result of pools. As already indicated, moreover, the breaking down of pool prices has quite as often been due to the action of the members of the pool itself as to competition from without. To show that pools cannot maintain monopoly would not be to show that trusts cannot do so.

Turning now to our experience with trusts, it has been demonstrated by thoro investigation that several of the trusts have maintained prices, sometimes for long periods, far above the competitive level. This has been proved true of the oil, steel, sugar and tobacco trusts. Doubtless it has been true also of many others not so investigated. Of the four named the oil trust is exceptional. It has in such large measure resorted to unfair competitive methods and has possessed such special privileges as possibly to account fully for the

monopoly power displayed. I do not think the same can be said of the others.

The history of the sugar trust is illuminating. While that combination has at times profited by railroad discriminations, there is little reason to believe that its ability to attack competitors was due in any great measure to such discriminations. Most of the competitors which have arisen from time to time have been exceedingly large concerns, whose business the railroads were eager enough to get. Price discrimination and other unfair methods of competition can be used in the sugar industry only within narrow limits. These methods were certainly not the means which prevailed to force competitors to sell out to the trust. For about fifteen years after the formation of the sugar trust in 1887, sugar prices — that is, the margins between the prices of raw and refined sugars — showed marked oscillations. A period of high monopolistic prices would be followed by the erection of new plants and a period of active competition. The competitors would then be taken into the fold and prices advanced again. On the average, prices were materially higher than they would have been under normal competition. For the past ten years or thereabouts, conditions in the trade have been more steady and prices have varied but little, being on the whole rather high. The trust has lost materially in its control of output during that period. The fact, however, seems to me attributable more to the fear of government prosecution than to a change of heart on the part of the managers of the combination or to realization of their inability to maintain monopoly.

The tobacco trust possessed for a long time, if it does not still possess, very great monopolistic power. When the Spanish war broke out, the government greatly increased the taxes on tobacco. Manufacturers, as was

expected, advanced the prices correspondingly. At the close of the war, the taxes were restored to their former level. But prices were not reduced. Profits soared. Had effective competition existed in the trade, it would have been impossible to maintain prices after the taxes were lowered. The tobacco trust, I feel sure, was far from owing the whole of its power to unfair competitive methods or to special monopoly privileges. Freight charges on tobacco are such a small element in cost that, even if the trust had special favors in this respect, they could have counted but little in competition. The trust did make considerable use of price discrimination as a method of warfare against competitors. It maintained bogus independent companies. It sought to make exclusive contracts with dealers. The conditions of the trade, however, are such that these practices could not wholly account for monopoly power. The ability of the trust to maintain its dominant position was largely due to its readiness to buy up competitors at good prices, and to the readiness of competitors to submit to the amalgamation process.

In the case of the steel industry, the maintenance of a generally high level of prices since about 1900 has been due largely to the willingness of the principal independent concerns to follow the lead of the Steel Corporation. The understandings with outside concerns have been usually very informal, but decidedly effective. The steel combination is much bigger than the Steel Corporation. That Corporation has gradually lost in its proportion of the output, but its power over prices has scarcely diminished. Unfair practices have contributed but little to its strength.

The truth is that in by no means all industries is it possible for a combination, however comprehensive, to add much to its power by unfair competitive methods.

Still fewer industries possess peculiar monopolistic factors which tend to strengthen the power resulting merely from the combination of the greater part of the industry.

The importance of railroad discriminations, for example, as a factor in the monopoly power of the trusts has often been exaggerated. Such discriminations were undoubtedly of enormous aid to the Standard Oil Trust. They have been of considerable assistance to a good many other trusts. But for not a few industries in which combinations have developed, freight charges are a relatively unimportant element of cost. During the past fifteen years, which cover the entire history of many of the trusts, railroad discriminations have been much less common than formerly. Law has done much to eliminate them. So has the increased traffic of the railroads, which has made them less eager to take business away from one another. The government investigations have failed to show that the harvester or tobacco trusts enjoyed special favors of importance from the railroads. They also have failed to show that the Steel Corporation has received such favors, other than those arising from its operation of switching railroads at its plants; and similar advantages were enjoyed by the leading independent steel concerns as well. It would be rash to say positively that this or that particular trust has had no unfair advantage over competitors in railroad rates, but it is certain that by no means every trust has had such advantage.

Again, price discrimination is not possible in all cases. True, it has been a tremendously powerful weapon in the hands of the Standard Oil Company. The peculiar method of marketing the principal petroleum products, by delivery in tank-wagons directly to the door of the retail dealer, greatly facilitated this practice. For

example, some years ago the Standard Oil Company was selling illuminating oil at San Francisco, next door to its great California refinery, for $12\frac{1}{2}$ cents a gallon. It was transporting the same oil several hundred miles to Los Angeles and selling it for $7\frac{1}{2}$ cents. Half a cent a gallon is a fair profit on oil. The small competing refineries were located chiefly near Los Angeles. In many industries, however, price discrimination cannot be made an effective tool of monopoly. In the case of those products which are standard in character and which are handled through central markets, comparatively little can be gained by it.

So, too, the practice of requiring exclusive patronage, — refusing to sell goods at all except to those who agree to refrain from buying the goods of competitors, — can be made a means of aiding monopoly in comparatively few industries. In the case of staple goods obtainable at central markets, it makes no difference to the purchaser whose product he buys. He runs little risk that by refusing to buy from a given seller, even the principal producer, he may be unable to supply himself from other sources. Where a combination has already, by patent rights, reputation or otherwise, a practical monopoly of certain products, it can sometimes use that monopoly as a means of forcing purchasers to buy its other products also, to the exclusion of those made by competitors. Otherwise the practice of requiring exclusive patronage seldom tends to monopoly. Indeed, it is a very common practice among concerns which have neither monopoly power nor monopoly purpose.

Some of the combinations have owed a good deal of their power to the possession of natural or patent monopolies. The grip of the Standard Oil Company was greatly strengthened by the system of pipe-line

transportation, which, like other means of transportation, tends strongly to monopoly. The system of tank-wagon delivery of oil to dealers also lends itself to monopoly, since duplication of service means needless expense. The possession of limited natural resources has aided at least a small number of the trusts to maintain their power. The possession of patents has been a factor of some importance in the case of the American Can Company, of the combinations in the electrical industry, in the shoe machinery industry and a few others. Were it possible to deprive trusts of these special monopolistic privileges, or to control the exercise of them by fixing transportation rates, fixing prices or otherwise, a number of the trusts would be decidedly weakened.

Nevertheless, it is far from true that factors of this sort are present in a majority of the combinations. They count little, for example, in the sugar business, or the tobacco business, or the packing business. I doubt even if the United States Steel Corporation has owed any appreciable part of its power in the past to the ownership of ore lands or the operation of railroads and steamships, considered merely as elements of natural monopoly.

It would, of course, require volumes to enter into all the details of the known facts regarding the individual combinations and to discuss carefully their significance. The statements I have made thus briefly may be challenged. Some of them may not be well-founded. On the whole, however, after much observation and study, I am strongly of the opinion that past experience goes to show that trusts and pools, merely by virtue of combination, can work injury to the public, through excessive prices. I do not believe that experience supports the contention that to prohibit unfair competi-

tive methods and to deprive combinations of special monopolistic privileges would sufficiently protect the people from extortion.

The opinion that the possession of a dominant proportion of a given business will by itself enable an industrial combination to exercise monopoly power over prices is not without theoretical support.

Some economists go so far as to maintain, on abstract grounds as well as on the ground of experience, that under modern conditions continued competition is impossible in most fields of manufacturing industry. They hold that the large amount of fixed capital places modern manufacturing industries in the same category with railroads. It has long been recognized that competition among railroads tends to go to such excessive lengths as virtually to force combination in self protection. Those who take this view would have us adopt neither the policy of permitting combinations to go unrestrained, nor the policy of attempting to destroy and prevent them. They find the only possible solution of the trust problem in government regulation of prices and profits.

This view seems to me extreme. It will be discussed more fully in another lecture. There is a material difference between the conditions in the great majority of manufacturing industries and those in railroad transportation. To maintain that it is impossible by law to prevent combinations in restraint of trade is very different from maintaining that, in the absence of laws against such combinations, they will be able to exercise a large degree of monopoly power. However, whatever force there may be in the arguments in behalf of the first of these positions is obviously still greater in behalf of the second.

Against this extreme view, that competition is impossible, stands the other extreme view, that monopoly power is impossible in manufacturing industries if unfair competition and special privileges be eliminated. There are, we are told, plenty of capital and plenty of business talent ready to enter any field where prices are high and profits promising. This is true in very considerable measure. The investigations of the Pujo committee, however, have made it clear that the flow of capital into industries is not altogether free from restraint. We may not credit fully the conclusions of that committee as to the power of the Money Trust. It is a fact, nevertheless, that a limited number of great financial interests, closely intertwined, and with a multitude of ramifications, have a considerable degree of control over credit throughout the country. A concern requiring large capital would find difficulty in placing securities or in borrowing money, if its purposes were inimical to combinations or corporations in which these great financial leaders were interested. At the same time, it must be admitted, the power of the Money Trust is by no means sufficient wholly to prevent new capital from entering into competition with the trusts.

Some take the position that the mere aggregation of great capital in the trust will implant such fear in the hearts of would-be competitors that they will keep out of the way. They urge that the great resources of the trust alone will enable it to survive losses of competition better than the smaller concern. With this view also I find myself unable to agree. The losses of a trust from competition reach a greater volume of business than those of the independent concern; proportionally they may be equally heavy. Only if the trust is more efficient than its competitors, or if it can use unfair methods of attacking them, is it able to drive them to the wall without itself suffering equally.

But does theory justify us in thinking that the trust will find it necessary to fight to the last ditch in order to rid itself of the competitors which are likely to spring up from time to time? Will not the same motives which led the group of competing concerns to combine at the outset appeal as well to the new competitors? It is by no means true, as some trust promoters would have us believe, that before the trusts were formed, destructive competition was causing intolerable losses. Usually the leading concerns were by no means in danger of the sheriff. They united because they saw the prospect of still greater gains than they were making. They felt it was more profitable to join in gouging the consumer than to try to get business away from one another. Will not the new concerns that rise up to plague the trusts find it convenient to do likewise after a reasonable period of competitive struggle?

We are not justified, on theoretical grounds, in anticipating any other history for the trust than that which has so often actually taken place in the past. The career of many, if not most, trusts has shown a wave movement. First, fairly complete elimination of competition and extortionate prices. Then an inroad of competition followed by moderate or low prices. Next the absorption of competitors, and high prices once more. What theoretic reason is there to believe that in the long run the average of prices under these fluctuations will be no higher than had there been no combination at all? What reason to suppose that during the periods of active competition the prices will go far below a profitable level? Can the trust induce its competitor to enter the sheltering arms of monopoly only after both have long been losing heavily?

Capital and talent may be ever ready to begin competition with the trusts. They are usually quite as

ready to join with the trusts to keep up prices. Often the sole object of the new competitor is to break his way into the monopoly. It may not even be necessary for the combination to pay a very high price in order to buy him up. It may not be necessary to *buy* him up at all. He may simply agree with the trust to work in harmony, to follow its leadership.

But, it will be urged, the trusts will be able, by reason of their superior economy and efficiency, to secure profits, on the average, in excess of the normal competitive rate, and still charge prices at least as low as would be possible under a régime of general competition. Anticipating for a moment what will be discussed more fully in another lecture, we may note that superiority of the trusts in efficiency has been by many greatly overestimated. The trust may be more efficient than its smaller competitors as they actually exist today or than the separate plants that preceded the trust. That proves little. The things compared are not properly comparable. In most industries the trust possesses little superiority over large individual plants such as would have arisen in the absence of the trust.

But even assuming for purposes of argument, that the trust is the most efficient possible business unit, it does not follow that, in the absence of regulation of prices and profits by the government, the people can expect to share in the benefit of that efficiency. On the contrary, the efficiency itself might result to the injury of the public. It is by no means clear that the self-interest of trust managers would under such circumstances lead them to maintain prices uniformly low in order to keep competitors from entering the field. Might they not rather keep prices high as long as possible, relying on their ability to destroy competitors by underselling, whenever they arose? Might not

the known ability of the trust to undersell without loss create such a fear that competition for long periods would not dare to raise its head? Superior efficiency of trusts may be an argument in favor of the policy of tolerating combinations subject to government regulation, but hardly in favor of a policy of *laissez faire*.

Experience and theory thus unite at least to warn us of the possible danger of trusts and pools. We cannot feel sure that the restriction of unfair competitive methods and the removal of special monopolistic privileges would rob them of power to mulct the consumer. Moreover, we have not yet been shown that it is possible to eradicate unfair competitive methods and special privileges. The government has been trying to put a stop to railroad discriminations for more than twenty years. It has reduced them greatly, but it has not wholly eliminated them. The task of preventing unfair methods of marketing goods would be even harder. It is easy to talk about prohibiting price discrimination, for example. Actually to prevent it would require elaborate administrative machinery. Price discrimination is practised more or less in almost every branch of industry and trade. Small concerns having no thought of monopoly often discriminate in prices. In some cases the practice is excusable if not desirable. The government would have grave difficulty in determining just where to draw the line. Indeed, to prove the fact of discrimination would often be virtually impossible, because of differences in the grade of goods sold, in the quantities sold to different purchasers, and in the costs of sale and delivery.

Difficult also would it be in many cases to deprive combinations of special monopoly privileges. For example, take patent rights. The patent possessed by a concern standing alone may give it only a limited

degree of monopoly power. By combining with other concerns having patents for related machinery or processes the monopoly may become complete. We may prevent such combination by law. But if we permit it, how can we then deprive the combination of the added power which the pooling of patents gives? The only remedy for monopoly in that case would be regulation of the prices of the products. Again, a number of separate concerns having each part of a limited natural resource may unite so that they together control the entire resource or the greater part of it. This gives them an advantage over competitors that did not exist before. The combination might have been prevented, but if it is permitted the advantage thereby acquired with respect to the natural resource cannot be taken away save by the difficult method of government regulation of prices.

The restriction of unfair competitive methods and of special monopoly privileges would be a proper enough adjunct of the policy of prohibiting combinations, or of the policy of regulating their prices and profits. But standing alone it is not a sufficient safeguard against monopoly.

The solution of the trust problem, therefore, must be found either in prohibition or in regulation, not in *laissez faire*. Those who ask us to remove the ban of law from trusts and pools without substituting the controlling hand of government over prices are asking a departure from a policy that is as old as Anglo-Saxon civilization. They are asking us to leap into the dark. The results, tho conceivably not disastrous, might yet be extremely disastrous. The great majority of the American people have no desire to risk the experiment. I for one believe that they are right in refusing to do so.

II

THE POSSIBILITY OF PREVENTING COMBINATION

If the conclusion is reached that there is need for either regulation of combinations or prohibition of them, the question immediately arises whether the latter course is practicable. Can the government successfully break up existing combinations and prevent the formation of others ?

The limited experience of this country thus far in "trust busting" is often cited as proving the impossibility of destroying the trusts. In some cases the so-called dissolutions have in fact failed to bring about real competition. Yet in some other instances a considerable measure of competition has apparently been restored. As regards the great majority of the cases no information concerning the results is available. So little time has elapsed since the anti-trust laws began to be enforced with some vigor that a pessimistic judgment as to the ultimate outcome is premature. Moreover, the methods of dealing with the combinations thus far have been relatively gentle and the results do not justify a conclusion as to what might be accomplished by a really rigorous policy of repression.

The opinions of most people concerning the results accomplished under the Federal anti-trust act are based on a few conspicuous cases. They do not even know that there have been scores of prosecutions and suits in equity under that act, the great majority of which have been decided in favor of the government. While the earliest decisions of the Supreme Court tended greatly to narrow the scope of the Sherman law, later decisions have turned increasingly in the other direction. The court has not only upheld the constitutionality of

the act in every respect, but it has held its broad terminology applicable to almost every specific form of combination or of contract in restraint of trade, and to almost every monopolistic practice of which complaint is made. Supposed rights of property and of contract have in large measure been brushed aside by the court when urged as a defense for monopoly. The Sherman Act needs little, if any, modification with respect to its scope and its definitions. The state courts also have shown vigor in enforcing the various state anti-trust laws.

Yet repression has not thus far taken drastic form. It is one thing for the courts to adopt a broad policy in holding a combination, contract or practice unlawful. It is quite another to use vigorous measures to punish it or prevent its recurrence. Thus far there has been scarcely a single instance of imprisonment for violation of either state or Federal anti-trust laws. Juries have not shown a disposition to convict where imprisonment was the necessary penalty, or where they believed that the judges would probably impose that penalty. Where judges have had a choice between fining and imprisoning offenders, they have uniformly inflicted the fine. In fact, many of the fines have been unreasonably light, in some cases far less than the profits which the combination had gained through violation of the law.

It would have been harsh to imprison men in the first campaign against the trusts under the Sherman law. The law had long been allowed to remain a dead letter. Business men generally did not look upon monopolistic combinations or practices as immoral. Hence administrative officers, judges and juries were justified in leniency. It does not follow that leniency is desirable for the future, or that the people will be disposed to tolerate it. Now that the public has shown that it

means business in attacking combinations and monopolies, and that the meaning of the laws is clearly established and generally known, men who form combinations, make contracts in restraint of trade, or pursue monopolistic practices, know that they do so at their peril, and severe punishments will be perfectly proper. If necessary, the anti-trust laws could be so amended as to make imprisonment the only penalty in criminal cases, or to increase greatly the minimum and maximum fines. A vigorous enforcement of anti-trust laws, especially by imposing prison sentences, would virtually stop the more formal combinations and contracts in restraint of trade as well as the more obvious methods of unfair competition. The average business man fears the jail mightily. Very few are deliberate law-breakers. Tho some secret combinations in plain violation of the laws might be attempted even in the face of severe punishment if discovered, they would probably be very few. The question whether informal understandings could be prevented and whether genuine and active competition could be brought about is, however, different and will be considered later.

A large proportion of the proceedings under the Sherman Act have not been criminal indictments, but bills in equity seeking injunctions. In a few cases the same combination has been pursued both criminally and in equity. The injunction is under certain conditions a very necessary device for enforcing the statute. It is difficult to see how a closely knit trust like the Standard Oil Company could be satisfactorily broken up without an order of the court as to the method of doing so. Merely to impose penalties upon a trust or its managers, and to leave them to devise means of dissolving it, would often open the door for endless litigation among the members and stockholders of the combination. A

pool, a contract in restraint of trade, a monopolistic practice can be discontinued forthwith. In attacking these, a prosecuting officer has his choice between criminal and equity proceedings. An injunction against them does little to add to the effectiveness of the penal provisions of the law itself. But the dissolution of a trust or corporate combination requires positive and not merely negative action. It takes time and skill. It calls for decrees in equity.

Most of the cases under the Sherman act have been not against trusts proper, but against pools, contracts in restraint of trade, and monopolistic practices. There is reason to believe that much has been accomplished in cases of this type, tho positive evidence is for the most part lacking. Very seldom have the courts been asked to punish the same offenders a second time, or to find them guilty of contempt in violating injunctions. It is perfectly easy for the separate concerns which agreed together in a pool and which theretofore were competitors to resume competition. In the past many a pool has dissolved itself, or fallen asunder without legal action. I have no doubt whatever that most of the pools, contracts in restraint of trade and monopolistic practices against which the law has been invoked have actually been discontinued in form, and a good many of them in substance.

In the more familiar cases against the Northern Securities, Standard Oil and American Tobacco combinations, the court had to deal with holding companies. The oil and tobacco trusts in particular were not mere assemblages of separate concerns. Each was a working, organic unity. The Standard Oil combination had been in existence for forty years. Most of the constituent corporations whose stocks were controlled by the Standard Oil Company of New Jersey had never

been independent; they were children of the parent concern by birth and not by adoption. The separate corporations were maintained merely for legal convenience. Very few of the men who managed them had ever had experience with competition against one another. The tobacco trust was but little less firmly knit together.

To establish competition among the parts of the oil and tobacco trusts was thus of necessity a difficult task by any method. The method actually pursued by the courts in these cases was wholly inadequate to the situation. Indeed, that method was not adequate even for the much easier task of breaking up the combination of railroads formed under the Northern Securities Company, a combination in which each railroad was a distinct entity and not an essential member of a unified whole.

In each of these three cases the decree of the court permitted the holding corporation to divide the shares of the various constituent companies *pro rata* among the stockholders of the holding company. A person who held one-tenth of the stock of the Standard Oil Company of New Jersey, for example, became thereafter the holder of one-tenth of the stock of each of the former subsidiary companies. To be sure, the decree prohibited the use of liquidating certificates or other evidences of joint ownership in two or more of the subsidiaries, as well as other formal devices for securing unity of control. The several companies, their officers, and directors were enjoined from agreeing together as to the conduct of business in such a way as to restrain trade. There was no prohibition, however, against the election of the same persons as directors or officers of two or more of the companies.

It is difficult to see why it should be anticipated that changes in the ownership of the stock thus distributed

would take place, within any reasonable length of time, such as would destroy the substantial community of interest. John D. Rockefeller had owned about one-fourth of the stock of the Standard Oil Company of New Jersey. A very small number of men had controlled a majority of the stock. These same men now control a majority of the stocks of the segregated companies. What possible motive have they for selling stocks in one of the companies rather than in another? Rather is it to be expected that they, and their heirs after them, will in general continue to hold all of these stocks, or, if they do dispose of any, will dispose of equal proportions in each of the companies. Changes are perhaps more likely to take place in the ownership of the smaller blocks of shares; but these have no influence in the control of corporations. So long as there is a community of ownership in the shares, formal agreement among the several corporations of the Standard Oil group regarding prices, output or other matters is by no means necessary to insure substantial harmony in operation. No man naturally competes against himself.

The situation with respect to the former constituent companies of the Northern Securities Company and the American Tobacco Company is the same as with respect to the Standard companies.

This method of dissolving trusts — by leaving the ownership of all the constituent parts to the same persons that owned the former controlling corporation — can hardly be characterized by any other word than farcical. It rests on the false assumption that a corporation has motives and ideas different from those of the persons who own it. The courts have repeatedly asserted that, in judging of the existence or the legality of a combination in restraint of trade, they must and

will look beneath mere forms, and will consider the essence, the purpose of the men who conspire beneath the cloak of the corporation. In making the decrees of dissolution in these leading trust cases, however, the courts have dealt with form rather than with substance.

There would be no insuperable difficulty in adopting a more effective method of dissolving such closely-knit trusts. The stockholders of the controlling corporation could be required to apportion the securities or properties held by it among themselves in such a way that no one should have an interest in more than a single part. Such a method of dissolution might not immediately restore competition, but it would at least render competition possible and ultimately probable. Of course, the procedure suggested would not be altogether easy. There might be bickerings among the stockholders as to the relative values of the several constituent parts, particularly in view of the fact that such values after the dissolution of the combination might bear a different relation to one another from those obtaining under the combination. If the court or the administrative authorities had to undertake the task of valuing the constituent properties for the purpose of such dissolution, much expert investigation would be required. But the thing is quite possible. It involves little more difficulty or more likelihood of injustice than is involved in the valuation of stocks and properties of constituent concerns at the time they enter a combination. The managers of the trust itself could be required to take the initiative in working out such a scheme of dissolution.

I do not propose to discuss the constitutionality of such a procedure. However, the increasing liberality of the courts in putting the public interest above the rights of property seems to hold a promise that they would go even thus far. If some injury resulted to

investors from such a plan of dissolution as I have suggested, it would be proper to remind them that when they entered into an unlawful combination, or bought its securities, they knowingly incurred the risk of loss through government intervention. Surely it would be strange if the law should avail to fine or imprison those who form a corporate combination with monopolistic intent, and yet be powerless to effect a real dissolution of such a combination.

In this connection it is worthy of note that the decree of the Court in the recent Union Pacific case did not authorize the distribution of the shares of the Southern Pacific Company held by the Union Pacific among the stockholders of the latter. The decree declared that such stock should be disposed of only with the approval of the Court. As a matter of fact, a large block of the Southern Pacific stock was turned over to the Pennsylvania Railroad.

As may be inferred from the preceding discussion, I do not believe any important measure of competition exists today among the companies which formerly were controlled by the Northern Securities, oil, and tobacco combinations. It is not in human nature that it should exist under the conditions. Moreover, there is no outward evidence that competition has been restored as a result of the decrees in these three cases. It is true that a very active campaign of advertising has recently been conducted by the companies into which the tobacco trust was divided, but this does not necessarily mean competition among them. Even in the days of its strongest hold on the trade, the American Tobacco Company was a great advertiser, both for the purpose of maintaining the popularity of its brands as against outside competitors and for the purpose of stimulating consumption.

We must conclude, therefore, that, until we have tried more vigorous measures than have been thus far employed, despair as to the possibility of restoring competition among the constituents of a trust is unwarranted.

Difficult as it may be to break up trusts already formed and firmly knit together, there seems no serious difficulty in preventing by law the formation of new trusts. Indeed, it is noteworthy that since the government began somewhat actively to bring proceedings under the Sherman anti-trust act, almost no trusts have been organized. If a proper control over the organization of corporations and over their acquisition of property and securities were exercised by the states and by the Federal government, the attempt to organize new trusts could be nipped in the bud. Herein lies one of the strongest arguments for the creation of a trade commission with power over corporations engaged in interstate commerce.

It would appear from the preceding discussion that there is no serious difficulty in destroying and preventing by law the more formal pools and contracts in restraint of trade, or in preventing the formation of new trusts; nor even any insuperable difficulty in effectively breaking up trusts already organized. There remains the question whether, in the absence of formal combinations and contracts in restraint of trade, those of an informal character, which the law cannot reach, will persist and will possess the power seriously to injure the public. It is, of course, impossible to compel people to compete, in the sense of attempting, by the lowering of prices or otherwise, to get all the trade they can. The law cannot punish concerns each of which, without any written or oral agreement, takes merely

the business which comes to it at the prices which it considers fair.

Those who believe it impossible to maintain competition in modern industry urge that the losses from unregulated competition are so severe that business men and investors will do everything possible to escape them. They point to the experience of the railroads. Railroad rate wars often reduced the competing lines to poverty or bankruptcy, and all but forced them into pools. The fierceness of railroad competition is due primarily to the fact that the transportation business is, at least up to a certain point in density of traffic, one of increasing returns. This tempts each company to increase its business at almost any cost. Moreover, it is impossible for the railroad to withdraw its investment, however unprofitable it may become. It is urged, that manufacturing industries in which large fixed capital is required present substantially similar conditions in both respects. To the manufacturing establishment with large investment in plant, the fullest possible operation means the lowest overhead cost per unit of output. In industries not requiring much fixed capital, it is possible for the competitor to withdraw if the business become unprofitable, thus setting a limit to the disastrous effects of competition. In industries with large fixed capital, we are told, it is impossible for any one to withdraw. Consequently, the concern which is losing most from competition will continue to cut prices, in the hope of gaining enough business to pay expenses and prevent absolute loss of the investment. Thus, it is contended, the business of all competitors often becomes unprofitable, and the temptation to combine, for restoring and maintaining prices, becomes well-nigh irresistible.

If the conditions were as serious as thus depicted, we should feel disposed not merely to give up the struggle

to maintain competition in our leading industries, but even to encourage combination. Persistent loss from excessive competition is intolerable. Among well-informed and unbiased observers, there has, therefore, developed a strong feeling in favor of permitting pooling and community of interest among railroads.

But is it true that competition in manufacturing industries tends ordinarily to such extreme lengths? Are the conditions in any appreciable number of industries closely similar to those in railroad transportation? This seems to me not proved.

In the first place, in most industries, the relative importance of fixed capital is much lower than with the railroads and other public service industries. The capital investment of the railroads of the United States is between four and five times as great as their gross annual revenue. The capital investment of the gas companies and of the electric light companies bears about the same ratio to their gross earnings. On the other hand, in manufacturing industries taken as a whole, the census returns show a capital investment less than the annual value of product.¹ Even in the steel industry, which is one of exceptionally large fixed capital, the reported value of capital only slightly exceeds the annual value of output. The statistics on which these statements are based are not altogether reliable, but they do show approximately the true relations. Again, the principle of increasing returns in the case of railroads extends in large measure even to

¹ This statement with regard to manufacturing industries is based upon the census of 1909, which gives the value of capital as \$18,428,000,000 and the value of products as \$20,672,000,000. The latter item involves much duplication, due to the use of the products of one plant as material for another; but it is proper to compare this gross value with that of the capital. For if a manufacturing concern shuts down in order to avoid loss, it eliminates its entire cost of materials, whether strictly raw materials or the partly finished product of other manufacturing concerns.

operating costs; this is seldom true of manufacturing concerns. For these reasons to reduce the output of a manufacturing plant when prices are unfavorable does not in most cases increase unit costs, including fixed charges, to any such extent as in transportation. Finally, in railroad competition there are usually only a few lines involved. Each of them may readily have sufficient capacity to handle the whole competitive business. In most manufacturing industries, on the other hand, plants are numerous. The individual plant has but a comparatively small fraction of the total capacity. Under such conditions no one plant can by price cutting expect to increase its share of the business in any such proportion as the railroad can.

For these reasons, competition of a really destructive kind is much less likely to arise in manufacturing industries than in railroad transportation. It follows that the motive for combination is less powerful in the former than in the latter. There are many manufacturing industries today in which we find neither destructive competition nor combinations in restraint of competition.

In any case, even tho the desire to suppress competition be strong among business men in manufacturing industries, it is very difficult effectively to suppress it when combination is under the ban of the law. Informal agreements and tacit understandings are far less effective in repressing competition than the more formal and definite combinations which it is proposed to prohibit. It is not easy for a group of separate concerns to act in harmony, to refrain from competition. This is particularly the case when prices are at a high level. If each concern could be sure that its competitor was maintaining prices and not seeking to get a larger pro-

portion of the business, tacit combination might go on peacefully. But the temptation to shade prices and get business away from others is always strong. The mere unfounded suspicion that competitors are pursuing this policy often leads the business man to seek to protect his trade by lowering prices, or by other competitive measures. If once the bars are let down anywhere, the whole trade is likely to rush into the field of active competition.

The history of combinations in the past is full of efforts to make them more binding, more cohesive, to prevent more effectively the internal competition that would ever break forth. Agreements as to prices were found ineffective without systematic measures for dividing output or profits. Agreements for such pooling of business or profits broke down unless there was efficient machinery for enforcing them, backed by heavy penalties. Despite even such vigorous methods, many of the pools were not strong enough to prevent competition among their own members. It was largely for this reason that the original trust form of organization, and later the corporate combination, became popular. The difficulties which the railroads in the earlier days encountered in their efforts to suppress competition among themselves are well known; and this despite the fact that their managers knew the peculiar risk of heavy losses from rate wars. The conditions which made competition so disastrous, which offered such an incentive to combination, themselves rendered the prevention of competition peculiarly difficult. No doubt, a large majority of business men would prefer to combine with one another in order to exact high prices from the public. It has already been suggested that if combination were freely permitted, competition would very

likely be eliminated in large degree. But combination under the ban of the law is a very different thing from combination with its sanction.

Those who hold that it is impossible to maintain competition as a general basis of business are called on to explain the fact that competition does exist today in a large proportion of the field of production and trade. Many as are the more formal combinations, perhaps even more numerous the informal understandings among business concerns, there are wide fields in which real competition exists. Can any one deny, for example, that the mining of bituminous coal, or the manufacture of cotton goods, of boots and shoes, of automobiles, is conducted under essentially competitive conditions? Is not the same true of a large part of the wholesale and retail merchandizing? The advantages of combination to its members are so well known that we should expect to find competition practically eliminated everywhere, were it not for the real difficulties of eliminating it.

There is, therefore, no occasion for despair as to the suppression of trusts and pools. Monopoly is not inevitable. Competition in manufacturing and mercantile business is not so destructive as to force combination. The failure of some of the so-called trust dissolutions to restore competition is no proof that more rational and more vigorous methods of enforcing the law would also fail to do so. Competition has been restored in some cases where monopoly once reigned. In many important industries competition has never succumbed.

Hence we can consider on their merits the relative advantages of trust prohibition and trust regulation. Our choice is not foreclosed by the impracticability of the former. Is a trust régime superior from the stand-

point of efficiency to a régime of competition ? Is it possible effectively to regulate the prices and profits of trusts ? What would be the ultimate consequences of a policy of regulation ? These questions remain to be discussed.

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DAVENPORT'S ECONOMICS AND THE PRESENT PROBLEMS OF THEORY

SUMMARY

I. Davenport's *Economics* is in the direct line of succession of the classical treatises on economics, 417. — II. The book essentially classical in scope and method, 419. — III. The chief departure from classical method in the greater significance ascribed to the entrepreneur, 422. — IV. Competing concepts of marginality: contradictions in Davenport's usage, 424. — V. Inadequacy of the concept of value as a mathematical ratio for the analysis of the problems of price and value of money, 430. — VI. Production identified with acquisition, 437. — Bearing of this amalgamation of concepts upon the problems of functional and personal distribution, 438. — VII. Social implications of Davenport's system of economic theory, 443.

I

Such recent writers as have sought to reopen theoretical controversies have commonly manifested a desire to change the scene of action, thus tacitly implying that nothing new could come from a renewal of the old debates. Sombart and Veblen and their followers have addressed themselves to the task of substituting for the accepted mechanistic economics a genetic science, constructed after the analogy of the biological sciences. Anderson and Cooley and other social value theorists are endeavoring to divert the attention of economists from the older issues to an examination of the forces underlying the so-called utility curve, which we are beginning to realize is not a utility curve at all, but a curve of possible choices, or, objectively speaking, values. No such treacherous shifting of ground appears in Davenport's *Economics of Distribution*.¹ Davenport

¹ The *Economics of Enterprise*. By Herbert Joseph Davenport. New York. The Macmillan Company, 1913. 544 pp.

takes his stand in the center of the ancient field of controversy, as a champion of the law, despite his manner of grisly revolutionary. Once more we pass in review the familiar doctrinal antithesis of value as ratio and value as substance; cost as pain and cost as opportunity foregone; margins as fixing prices and margins as fixed by price; capital as productive factor and capital as distributive category; interest determined by productivity and interest determined by a discounting process. Once more we are to subject to analysis the nature of imputation, and to examine the bearings of complementarity and substitution. The theory of entrepreneurship and profit is overhauled again, as are also the theories of credit and crises. This enumeration of problems might be greatly extended; but it is already clear enough that we have in Davenport's book a remarkable congregation of issues that are classical but are still far from being closed. And not merely by number of issues raised is Davenport provocative of thought. He woos his reader with a club more often than with soft words; accordingly he forces you to subject to re-examination doctrines you had always cherished until you found them in Davenport's arsenal. With most contributions to contemporary economic theory one agrees or disagrees, and there is an end of the matter. With the present book, whether one agrees or disagrees the matter does not end. It is therefore safe to say that a generation hence this work will find its place in the list of writings with which all adepts in economic theory are expected to be familiar. And it is also safe to say that it will be subjected to the same merciless exposure of inner inconsistencies by which authority has been stripped from the great writers of the classical period. The present paper is offered as an early contribution to this anticipated literature of exposure.

II

The title of Professor Davenport's book, the *Economics of Enterprise*, is intended to express succinctly the author's conception of the problem. "Enterprise" signifies, not a definite part of the economic life of the present, but essentially the whole of the current system. The justification for such an extension of the meaning of enterprise is to be found, if at all, in the dominant position of the entrepreneur in modern economic life. Entrepreneurship in Davenport's sense is a very broad term; it covers the activities of "the independent, unemployed manager; the one who carries the risks and claims the gains of the enterprise" (p. 67). Every person who buys goods or services for the purposes of production or sale, or who employs his own goods or physical powers in production for sale, or even for his own consumption, is thus an entrepreneur. Wherein, then, does the economics of enterprise differ from plain economics? Evidently in that the former does not concern itself with economic life in times or places in which production for sale is unknown, or at least exceptional. In so far the substitution of "economics of enterprise" for "economics" is merely a formal gain. Classical and neo-classical economists have made few incursions into primitive life; and there is little ground for supposing that such incursions will be more numerous in the future. There was no pressing need for Davenport's flaming sword to keep us out of so laborious an Eden.

In one further respect the choice of title serves to restrict the field of economic analysis. Any realities that lie behind the phenomena of exchange value are unknowable to the entrepreneur and hence to the eco-

nomics of enterprise. The calculations of the entrepreneur can at best take such realities for granted. An excellent example of these irrational realities is the standard of living. A favorite mode of disposing of the standard of living is to treat it as a force affecting the supply of labor, and hence affecting wages, or, according to the more recent formula, affecting productivity immediately and wages ultimately. This is all that Davenport is able to make of the standard of living (*cf.* pp. 2, 450-452) and it is all that the majority of economic writers, including the reviewer himself, have ever made of it. And yet are we not aware of the fact that in most bargaining for labor there is a considerable margin between seller's minimum and buyer's maximum, and that the course of the negotiations is likely to be affected by even the personal appearance of the worker? In domestic service, for example, one applicant for a position carries herself like a duchess, and on first sight of her the employer's maximum tends to rise. Another carries herself like an abject serf; unconsciously the employer shears a considerable fraction off the maximum. Is it not a plausible hypothesis that the collective stiffening of the necks of laborers which a rising standard implies must have an immediate effect upon the terms of distribution? But even if we could be certain that the standard of living operates only through its effect upon supply of labor, we should not be absolved from the necessity of investigating the nature of the standard and the forces that cause it to rise or sink.

Again, there are phenomena in the field of commodity values for which the economics of enterprise can offer only a formal solution that advances the inquiry practically not at all. On Chesapeake Bay, thirty years ago, sturgeon's roe sold at five cents a pound; today

the same material is sent to France, where it is properly sophisticated and artistically packed for its return to this country as caviar, worth, perhaps, ten dollars a pound. Of course every one knows that the rise in value, so far as it is not due to exhaustion of sources and to cost of preparation, must be ascribed to the extraordinary vogue of caviar as an article of fashionable consumption. The chief part of a scientific explanation of the rise in price of sturgeon's roe consists obviously in setting forth the origin of the vogue of caviar, the circumstances in which it developed, the limitations under which it now stands. We may, of course, translate the problem into terms of an equilibrium of demand and supply, or into the more seductive terms of a balancing of utility and cost, but such translation sheds not the least light upon the real problem of the rise in price of caviar.

In limiting himself to the field of the economics of enterprise, Davenport thus excludes from his purview all the problems of value and distribution that are refractory to the supply and demand analysis, that persist in all their original perplexity despite their subjugation under supply and demand equations. In the work under review such problems are deliberately excluded, as in the classical system they were automatically excluded by the limitations of the method of analysis. Doubtless the classical economists believed that the problems excluded are of less practical importance than the problems to which their method is applicable; and this, one suspects, is Davenport's view. This question of relative importance, however, is one that is not easily settled. We have heard much in recent years, from Professor Veblen and his followers, of the futility of the "taxonomic" treatment of economic problems. We have also heard much of the

other-worldly character of the "genetic" economics of the Veblen school. The controversy has, however, hardly passed beyond the stage of mutual recrimination. Accordingly we may most safely content ourselves with the recognition that neither method appears to be adequate to the solution of all problems classed as economic by universal consent.

III

It has already been indicated that Davenport's economics falls into the same category with the classical and the Austrian, as to both scope and method. In so far as it presents a variation upon the classical method, this consists in its faithful observance of a self-imposed rule that all economic phenomena must be viewed from the entrepreneur's angle of vision. Hence a quite special emphasis upon price, rather than upon value; upon entrepreneur's costs, rather than upon "subjective" or "social" costs; upon capital as an acquisitive category rather than as a productive factor. Primary importance is everywhere assigned to pecuniary relations, while technological relations are relegated to a subordinate position. All this is, of course, in accord with the trend of orthodox economics. But orthodox economics never attained the degree of conscious concentration upon its final purpose that has been achieved by Davenport.

In classical and neo-classical economics, entrepreneurship has figured chiefly as a pervasive reality which, once admitted in the premises, may then be dropped from the field of vision. In every labor contract, in every arrangement for the borrowing of capital or the purchase or sale of commodities, entrepreneurship has been assumed to be functioning. Yet in the more

logical systems, as for example, that of Professor Clark, the function of the entrepreneur, unlike those of the laborer and capitalist, may be exercised without reward, and would necessarily be exercised without reward in a state of perfect competition. It has been recognized that the choices of the entrepreneur set the whole productive mechanism in motion. But these choices, according to the usual view, are mere matter of calculation, and involve no element of will or of feeling. An entrepreneur is offered, for one dollar, material that promises to be worth two dollars in the conduct of his enterprise. He chooses, indeed, to take it; but the choice is, in a sense, determined. The entrepreneur's existence as an economic man depends upon his acceptance of every opportunity to better himself, even in the least degree, by his choices. Accordingly, it is not to the choices themselves that orthodox economics looks for an explanation of price changes, but to the forces that determine the respective magnitudes of the items offered for choice. Davenport manifests a tendency to infuse a more substantial existence into the entrepreneur. In his earlier work, *Value and Distribution*, as well as in later writings, he has defended the doctrine that the margin of significance in price determination is not an "instrument margin," but an "entrepreneur margin." It is not the cost of wheat on marginal land, but the cost of wheat to the marginal entrepreneur that stands in the most intimate relation to price. We find a reminiscence of this doctrine on pages 80-81, where it is asserted that all margins are personal. As "marginality" is here defined to be nothing but choice, the position is impregnable. No one supposes that land or instruments make choices for themselves. It is another question whether marginality so defined is a concept that can serve any useful purpose in eco-

conomic theory. It is to be noted that wherever Davenport makes practical use of the concept of marginality, he passes beyond entrepreneur's choices to the circumstances determining them. If, on page 80, margins are declared to be personal, on page 82, where margins are used for purposes of explanation, they are not personal margins at all, but good neo-classical land margins and instrument margins. Accordingly it still remains to be proved that the entrepreneur ought to be given a more active rôle than that entrusted to him by orthodox theory. In spite of himself, Davenport leaves the entrepreneur without effective discretion. The economics of enterprise remains pure economics.

IV

When Austrian value analysis first came into vogue the loyal adherents of the classical school attacked it vigorously on the ground that an exaggerated potency in value determination was ascribed to margins. Every student can recall Professor Macvane's declaration that value determines marginal utility, instead of being determined by it. A similar opinion, but extended to all margins, is voiced by Davenport: "The margins are the points *at* which, and not *by* which, the price is fixed; all items of supply and all items of demand are, actually or potentially, equally causes in the adjustment" (p. 54). The same idea is expressed in its most general terms on page 95. "The total situation is directive of each individual in it." It finds concrete expression in the conundrum (p. 95): let one imagine himself jumping "on a crowded raft and sinking with it; does he sink the others, or do they sink him?" Davenport's own solution is evidently that the total situation sinks the raft, in spite of the fact that most

of the total situation floated very well until the irresponsible marginal man dropped upon it.

And yet there is obviously some justification for this attack upon marginal causation. The price of wheat may conceivably rise so high that women will glean the fields for ears, as in the days of Ruth. And will it be said that the high price of bread is fixed *by* the cost of gleaning? Or will it be said that prices are fixed *at* the cost of gleaning? Either proposition is harmless and futile. The true explanation of the high price will run in terms of over-crowded population or exhausted land, drouth or flood, war or pestilence. Or, as Davenport would say, in terms of the "total situation."

It follows, then, that if margins have any significance in price determination, this significance must be derived from the facts of economic life, not from arbitrary premises. Would a reduction in the price of wheat result in the abandonment of a few stony hill-tops that added merely a negligible increment to supply, or would it result in the withdrawal of a vast acreage from wheat cultivation, and thus force the price back to its old level, or near it? If the latter, there is such a thing as effective marginality of land, land that will command its price, or wreak vengeance upon the price structure. Effective marginality is, of course, very far from a device adequate to the explanation of all persistence of price levels; but that it is an extremely important part of such explanation no one would deny. Davenport himself makes very frequent use of the principle. Prices, he tells us (p. 70), "are influenced by cost by virtue of the fact that there are always enough marginal men in any competitive production to bring about a reduction of the supply, if the relative advantages of the industry appear likely to suffer." That is, whatever influence upon prices is exerted by cost of production is exerted

through marginality. In the light of this broad doctrine, what are we to say of the principle that prices are fixed *at* the margin, not *by* the margin?

It is because of an unexpressed desire to rest his analysis upon effective margins that Davenport emphasizes opportunity cost, rather than subjective and absolute cost. The last hour of work in a cotton mill may be so irksome as just to balance the wages earned in that hour. Here then is marginal labor. Cut wages, and possibly the workers will demand a reduction of the working day, solely for the purpose of escaping this unremunerative hour. The case, however, lacks verisimilitude. Not so with another hypothetical case. Let us say that many of the workers are earning barely enough to keep them from deserting to other employments. Cut wages, and they desert. The last and most painful hour to all the workers may be called marginal labor, but it is practically devoid of potency for controlling wages or prices. The labor of men on the point of changing their employment may also be called marginal labor. This has an obvious potency for the control of prices and wages.

The case is similar with utility margins. To say that price is determined by marginal utility, or that it measures marginal utility, is of course meaningless. If by marginal utility is meant the least satisfaction that is actually derived from the consumption of a good, the proposition is untrue. A corporation magnate often gets less satisfaction out of a Carolina Perfecto than a coal heaver gets out of a Henry George. Let cigars rise, and it is the Henry George that is sacrificed, the greater utility, not the less. Davenport, to be sure, offers no such attack as the above on marginal utility as a determinant of price. According to his philosophy, we can know nothing of the satisfactions of either

corporation magnate or coal heaver. But the rest of us, realizing our common humanity, are sure we can know.

But if marginal utilities in their absolute character are either unknowable or of no price-determining potency, the same is not true of relative marginal utilities, as Davenport calls them, or subjective values, as they are called by economists who refuse to identify value with ratio in exchange. The coal heaver may not be able to tell us how much satisfaction he derives from a Henry George, but he can tell us how much more satisfaction he derives from it than from a glass of milk. It is these relative utilities or values alone that count in making up the demand curve. Of these it may properly be said that some are marginal. And here again we have the distinction between a margin that is determined by price and a margin that may determine price. Let the price of bread rise, and some of us may merely tighten our belts and murmur. Others of us will eat potatoes or corn-meal porridge. Here are two margins, and it is a question, not of logic but of fact, which counts. There can be little doubt that it is the latter, or margin of substitution, that is chiefly significant in price determination.

We have, then, two conceptions of marginality, one of which may be described as logical, the other as effective. Logical marginality may attach to any unit of supply or any unit of demand; effective marginality attaches to particular units, determinable by fact and circumstance. Recurring to Davenport's analogy of the raft, the mathematician may safely indulge himself in curious speculation as to whether it is the last man who sinks the raft, or the first man, whose presence so burdens the raft that the last man will sink it. This is not the sort of speculation that men indulge in when in

the presence of an emergency. The first man on the raft rejoices in its excess carrying capacity and is quite unconcerned about his own weight. He welcomes a second for his companionship, and a third. With ten on the raft an additional recruit is viewed with anxiety; with fifteen, the sixteenth man is regarded with hostility; and as to the fatal seventeenth, if he is not shot or clubbed to death before he gets on board, it is because none of the others have weapons. And similarly, when we debate the restriction of immigration, we do not dissolve into philosophical inquiries as to whether it is the new increment to the population, or the population already here, or the total situation, that reduces wages. We strike at the effective margin, and thus defend our standard of life.

It is not to be denied that the margin as a premise of formal logic may for certain theoretical purposes be more available than the effective margin. The formulae of mathematical economics do unquestionably illuminate the problems of price and these formulae can have nothing to do with effective margins. All that mathematical economics needs is intersecting curves; on this basis it can establish the equilibria that are its sole ends. Even here, be it noted, margins are by no means the fly on the wheel, buzzing "what a dust I raise," as Davenport would have us believe (p. 95). Total demand set against total price can give a determinate price only by virtue of the intersection of curves, or in other terms, by the establishment of margins. Say that in the theoretical horse market six buyers appear, each with a maximum of \$200 that he will pay rather than fail of securing a horse; six sellers appear, each with a reserve price of \$100. Total demand will evidently equal total supply, but what will the price be? All that we can say is that it will be above \$100 and

below \$200. There cannot be even a mathematical solution of the problem of price without the assumption of a margin of greater significance than Davenport's analysis establishes.

Mathematical economics, as Professor Schumpeter showed clearly in his *Wesen und Hauptinhalt der theoretischen Nationalökonomie*, has nothing to say on questions of action. It is most successfully cultivated by those who have the most shadowy interest in practical affairs. Davenport is not of this number; his sole object in writing of economic theory is to provide a more general basis for practical judgment than detailed study of concrete problems can afford. Hence his attitude toward the marginal concept of mathematical economics, which he introduces only for the purpose of displaying his aversion to it. Effective margins he employs persistently and successfully, without, however, recognizing them explicitly as such or establishing satisfactorily his right to employ them, in view of his criticism of the general principle of marginality.

Altho Davenport makes frequent use of the principle of effective marginality, his reluctance to recognize it has seriously handicapped him in his analysis of its consequences. The classical economists, and many of their present day disciples, have made much of the distinction between price-determined and price-determining items of outlay, or incomes. Davenport rejects the distinction. The mathematical economist, dealing with margins only as logical premises, is justified in rejecting this distinction. The economist who employs the principle of effective margins, and seeks to establish a basis for practical action, is not so clearly justified in rejecting it. As it is by virtue of effective marginality that factors in production exert an active influence in price determination, it follows that factors not in a

position of marginality can exercise no active influence. The cranberry bog that can be used for nothing else cannot hold up the consumer of cranberries for its rent. If it yields a rent, this is because other circumstances fix a price which makes possible the payment of rent. It is sufficiently clear that no broad category of incomes, such as rents in general or interest or wages in general, is to be regarded as price determined or price determining. Practically every class of incomes that can be named consists of a mass of price-determined income, protected, as it were, by a vanguard of price-determining income. If the vanguard is weak, taxation or other encroaching forces may with a fair degree of impunity make inroads upon the mass of price-determined income. That Davenport draws practical conclusions from the principle of price-determined income, in spite of his repudiation of it, is indicated by his enthusiastic espousal of the policy of confiscating ground rent (p. 496).

V

“ The market value of any given thing is the exchange relation in which, quantitatively stated, it stands to some other one thing, quantitatively stated ” (p. 236). Thus does Davenport introduce his discussion of value, and with only a slip here and there, holds resolutely to this definition throughout. It is the familiar classical concept of value as a ratio, and the fact that it has satisfied the demands of so many keen thinkers, and has served as a basis for so vast a volume of fruitful analysis, will justify its continued use.

There is, however, another concept of value, which has gained a considerable degree of currency in recent years. This is the quantitative concept of value, according to which value is a quality infused into an

object by men's needs or purposes, measurable by its control over the action of the ordinary individual, or possibly over the action of society. To those who define value in relative terms, the fact that two objects exchange on even terms is final proof that at this particular time and place the two values are equal. To those who define value in quantitative terms, the facts of a single exchange may signify nothing as to values. True, there is a tendency for exchange ratios to assimilate themselves to values; but the assimilation is a process requiring time. It is obvious enough that we have in these competing value concepts another instance of the differences in method between the mathematical and the realistic economists. Our author chooses to enroll himself with the former school, exercising therein a liberty that it is indefeasibly his right to exercise.

It is not, however, too much to say that Davenport transcends this sphere of personal rights when he asserts that value cannot be a quantity. Value as defined by himself cannot be, and this is about all his criticism of the quantitative concept amounts to (*cf.* pp. 242 *et seq.*). So far as he goes beyond this impregnable position, it is to dwell upon the difficulty of finding an unvarying measure. "What does it mean to assert that a horse in America has less value than a horse in China" (p. 241)? It does mean something, and the proof of it is that in China a man who owns a horse is numbered among the lords of the earth, while a man who owns a horse in Missouri may be a negro farm hand. Was decent burial of greater value in ancient Greece than in modern Greece? To be sure it was, and the proof of it is that a man's kin would give their lives to preserve his dead body from the birds and dogs, and be counted heroes for it. In modern Greece an Antigone would be shut up in a lunatic asylum.

But Davenport urges that weight can be measured only with reference to a heavy object; heat with reference to an object that is hot. And the inference is that value can be measured only with reference to a valuable object. Now, values are ever changing; measurement is therefore uncertain. Let us remember, however, that the race — and the individual — first learned about weight through lifting objects, and became alive to heat through the burning of fingers; and there are still millions of persons who have no more scientific methods of determining weight and heat than immediate experience. The negro in Africa knows that a bag is heavy either by lifting it or by observing other men's bending backs and trembling knees. All that can justly be said in criticism of the concept of value as quantity is that we have no more reliable measure of it than immediate experience or observation of the behavior of other persons. But certainly value may be conceived as a quantity in spite of this inconvenience of measurement, just as weight is weight in equatorial Africa, and bends backs and stiffens joints as effectively as if every African were an official sealer of weights and measures.

Davenport's refutation of the quantitative value concept consists, then, partly in a begging of the questions at issue, partly in a substitution of the *ratio cognoscendi* for the *ratio essendi*. These are, of course, well tried and highly valued weapons of economic controversy, and it would be unfair to Davenport to deny him the use of them. The real test of a concept is, after all, pragmatic. If the relative concept of value is adequate to all the purposes of economic analysis, this is all that is needed to cut the ground from under any competing concept. For of no other concept of value can it be said that it alone is adequate to all theoretical

needs. As Davenport has not attempted to establish the universal adequacy of his value concept, it is clearly no part of the reviewer's duty to carry the inquiry into fields not falling within the boundaries of the system under review. It is, however, pertinent to inquire how far the concept meets the requirements of Davenport's own system.

Of the concepts bearing upon value and price, Davenport explicitly admits (1) total utility; (2) marginal utility — "desiredness" (p. 86); (3) cost, conceived essentially in terms of opportunity foregone, hence in utility terms; (4) value, equivalent to ratio in exchange; (5) price, a special form of value as above defined. There is further mention of the concept "relative marginal utility" (p. 93) and a reluctant acceptance of the fact that it is only through "relative marginal utility" (subjective value) that either total utility or marginal utility can have anything to do with price.

That this concept of "relative marginal utility" is of more importance in Davenport's system than his cursory mention of it would suggest is easily established. Price determination is a matter of equation of demand and supply, and this signifies graphically an intersection of the curves of demand price and supply price. Now, what are the elements that figure in these curves? Marginal utilities? Davenport would be the last to accept this view. Ratios of exchange? Except for one particular point in the curve, they are ratios at which exchange does not take place.

It is open to the author to say that his curves of demand and supply are constructed upon a basis of relative marginal utilities, or relative desiredness. The only exception that can be taken to such a disposition of the matter is the cumbersomeness of the terms. What they cover is a quality, quantitatively measurable,

capable of expression in intelligible terms. This is the quality that is termed *Werth* or value by the theorists who treat value as a quantity. It is the assertion of these theorists that ratios of exchange cannot be explained without reference to it. This claim Davenport appears to reject in principle, but concedes in practice.

Why should we not confine the term value to ratio in exchange, and adopt the term "relative marginal utility" to describe the quantitative value concept, thus ending all the controversy that now makes warring schools of otherwise like-minded men? Value as ratio of exchange comes into existence only when exchanging actually takes place. I set out to buy a horse; the horse as yet has no value; at the instant of "meeting of minds" between the seller and me, the horse has a value of \$200; but the next instant, it is again valueless. If at any time all men should become so well satisfied with the things they have that no exchanging could take place, all values would disappear. There are, as we know, economists who thus ride their value concept into the very jaws of annihilation. It is no great loss, in view of the fact that the concept has never been the private property of any language, and never will be.

But a more serious objection is that such a terminology leads to the assumption that analysis has reached rock bottom when it is really resting upon quaking mud. Relative marginal utility — what can appear more solid than this? In reality, however, it is a substance partly of feeling, partly of judgment, containing elements of individual purpose as well as elements of social influence. A buyer's "reservation price" may have something to do with availability for personal consumption; it may have something to do with his observation of other men's actions; it may reflect an

estimate of future current prices, or represent a reminiscence of past prices. To leave the concept of "relative marginal utility" unanalyzed is to renounce the possibility of solving many important problems of economics. Notably, problems of money and crises.

According to pure quantity theory, the medium of exchange is always adequate to effect exchanges that represent net gains in utility. According to experience, this is not true; monetary stringencies, both local and universal, occur. The theory which treats value as a quantity has no difficulty in explaining these stringencies: the value of money is a structure built up out of a mass of feelings and judgments resting upon the past and the future as well as upon the present. This structure may at any moment of time be out of harmony with the structure of goods values, similarly built up. From this point of view there is nothing astonishing in the fact, especially in evidence during post-panic depressions, that the holders of money place so high a value on it that they will not offer it for goods at the price necessary to command them, and that the holders of goods place so high a value upon them that they will not sacrifice them for the money price they will fetch. The theory of crises based upon value as a mere ratio and upon the corresponding explanation of price naturally leads to the inference that the phenomena of a depression must be fully registered in the low level of prices. This, however, every one knows is not true; the sluggish movement of commodities, rather than the decline in prices, is the striking fact.

Now, it is interesting to observe that in his discussion of money and crises — an extraordinarily able and illuminating discussion — Davenport's method is that of the realistic, value-as-quantity theory, not that of the mathematical, value-as-ratio theory. The whole

discussion runs in terms of processes requiring time, not in terms of timeless, mathematical equilibria. The quantity theory of money is valid at the end of the process, not at any point of time chosen at random.

Even so moderate a view of the quantity theory has been severely criticised, and Davenport endeavors to give full weight to facts out of harmony with it. In one case he goes to the extreme of admitting facts that are purely imaginary. In an endeavor to show how newly mined gold affects the level of prices, he suggests that the influence is first felt in the price of gold used in the arts. The steps in his reasoning are as follows: At any given time the volume of bank currency is determined, not by the volume of reserves, but by the volume of acceptable paper offered for discount. Now, the new gold goes first to the mints and thence into the reserves. This does not increase the amount of acceptable paper; hence the volume of credit circulation remains unchanged, as, by hypothesis; does also the amount of specie in circulation. There can accordingly be no direct effect upon the level of prices. Reserves become plethoric, and "the change in general prices is initiated in the non-monetary market for gold" (p. 317).

The argument would be entirely valid if the gold originated in the blue sky, not in mines operated by men eager to spend or invest the proceeds of their industry. As it is, when the gold goes into the bank reserves, the fact is recorded by the crediting of deposits — an addition to pre-existing deposits — which are pretty certain to function as active purchasing power. And this functioning is prerequisite to any increase in the employment of gold in non-monetary uses, unless we are to assume that bankers are in the habit of carrying their plethoric gold reserves to the goldsmiths and trading them for rings and watch-cases.

VI

The key to Davenport's theory of distribution is his definition of capital. This is "a durable, objective source of valuable private income" (p. 162). On first inspection this definition appears to exclude goods in process of manufacture and mercantile stocks, since these do not answer very well to the description of "durable sources." But Davenport's conception of durability is broad enough to include persistence through any perceptible time. The definition is couched in these terms not for the purpose of excluding anything that has ever been included under capital, but for the purpose of extending the application of the term to the so-called acquisitive capital — spendthrift loans, monopoly privileges, vested blacknail — as well as to what economists have been accustomed to describe as productive capital. Labor is defined in correspondingly broad terms. The beggar on the street corner, we are repeatedly assured, is performing labor and his takings are wages. Productivity is defined as equivalent to proceeds. It is worth noting that so rigorous a definition is not adhered to throughout. On page 494 we are told that much of the product of society reaches its final recipients through gift. This is meaningless if the beggar on the street corner produces his income.

What is sufficiently clear is that if we desire to confine ourselves to a description of distribution as it is, we shall be forced to limit ourselves, as Davenport seeks to do, to the categories of rights and proceeds. The lender's income is immediately dependent upon the loan contract, not upon the productivity of capital; the net income from mortgaged property is related to the "equity," not to the physical property; wages are related to the wages contract, not to labor. On this

plane there is no room for a distinction between acquisitive and productive capital; between productive and unproductive labor. Distribution viewed in its immediacy presents many problems of great interest: economic problems concerning the nature and origin of the respective claims upon income; moral problems concerning their ethical justification. There are honest incomes from monopoly shares, and from slave-driving, man-killing colonial exploitations, just as there are crooked incomes from bread making and milk pasteurizing. In fact, most, if not all, the moral economic problems emerge upon this plane.

It is self-evident that none of the methods of traditional economics will serve the purposes of investigating the economic and moral problems of distribution in its actuality. What we need here is a genetic method. But this method our author, in common with most theoretical economists, is either unable to use or consciously repudiates. If Davenport were not possessed of the courage to transcend the limits of his own written constitution whenever he pleases, we should have to record here a definition of distribution and nothing further. As it is, after a number of fratricidal attacks upon other economists for setting themselves the problem of functional distribution, he sets himself the same problem and performs valuable service toward its solution.

Functional distribution, as we all know, concerns itself not with the rights upon which private incomes are legally founded, but with the underlying forces that attach returns to specific services, of persons or of material goods. A functional return is inevitably bound up with certain classes of land; with artificial instruments of production; with certain forms of labor. To functional distribution it matters not in the least

whether these returns are enjoyed by demons or angels, by private persons or by the state. Functional distribution concerns itself with the inevitableness of returns, not with the morality of incomes. Essentially it is ethically colorless. Except that the various classes of returns may exert varying dynamic influences upon the future welfare of society; on which ground we may rejoice in the progress of one class and regret that of another. Functional distribution, then, may throw light upon certain questions of social expediency, and hence may have a bearing upon morals in becoming, tho obviously none upon morals in being.

The two doctrines of distribution have so much terminology in common that it is not surprising that few, if any, economists have been able to fence them off completely from each other. They have been permitted to mix, and their mixing has given rise to a whole breed of recalcitrant and infertile hybrids, incapable of being killed by overwork. Of such hybrids the doctrine of the "unearned increment" is an excellent example, the former element of the combination resting on the plane of personal distribution and its moral corollaries, the latter on the plane of functional distribution and its imagined corollaries of social expediency. Of such hybrids Davenport has a goodly number, as one might anticipate from his crossing of doctrines.

In his treatment of functional distribution, Davenport is essentially a productivity theorist. It is true that he denies that wages, interest, rent and "necessary profits" are the only expenses of production; additional categories, such as the costs of insurance, taxes, advertising, must be added. There never has been any disposition on the part of productivity theorists to deny the existence of such expenses. Some of them, as advertising expenses, may easily enough be reduced to

the traditional categories; others, such as taxes, have commonly been regarded as phenomena of secondary distribution, like gifts and bequests. It would probably be conducive to doctrinal clearness to treat some of these expenses as independent distributive categories. More fundamental is our author's criticism of the traditional categories on the ground that they embrace many elements that are not generically related. Functionally those productive elements that stand in a competitive relation to one another, instead of a complementary relation, properly constitute a single "factor in production." Now, unskilled labor does not normally compete with managerial labor, but is complementary to it; agricultural lands are complementary to factory sites; raw materials are complementary to machinery. All this may be granted, except perhaps that in the case of goods that are reproducible, complementarity gives way to competition in the disposition of replacement funds. A milking machine, we are told (p. 419), does not compete with a mowing machine; and this is obviously true. But both will wear out, and funds for replacement will compete for the greatest return. With this qualification, the proposal to constitute a legion of factors in production instead of three or four may be accepted as indicative of a method whereby the fruitfulness of economic theory may be vastly increased.

It is true that Davenport appears often to place himself squarely in opposition to the productivity theorists; but the opposition is chiefly terminological. Productivity, we are told, differs with different entrepreneurs (p. 148). This is, of course, true of "total productivity," whatever that may mean, but it is hardly true of marginal productivity, if competition is doing its work. This is admitted on page 140, where it is said of the entrepreneur that "paying as little as he must, com-

petition will ordinarily compel him to pay all that he can." Davenport's doctrine continually wavers; at one point he is misled by the deceptive analogy of the consumers' surplus (p. 145); at another, by a confusion of the marginal entrepreneur with marginal entrepreneurship (p. 146); at still another point by the equivocal meaning of productivity. Since the productivity of any agent of production may vary according to differences in entrepreneurs (and, by the way, with all other differences in complementary agents) there can be no such thing as specific productivity, but only relative productivity (p. 153). Now, the reason for coining the term "specific productivity" was to escape the absolute connotation of the term "productivity." An examination of the conditions defining the term specific productivity, as used by Professor Clark, would show that it means precisely what Davenport means by relative productivity.

In his explanation of interest Davenport offers powerful support to the productivity cause. Essentially the value of reproducible capital is traced to an opportunity cost basis. "The creation of equipment requires the diversion of productive power away from the service of immediate consumption" (p. 376). Some part of capital, then, has a foundation for its value that is independent of the value of its fruits. It thus becomes logically possible to assume that, with capital value given, the rate of interest may be found by reducing the value product of the capital to a percentage of the parent wealth. A follower of Professor Fisher would no doubt say that this interest theory rests chiefly upon the principle of inferiority of present to future in provision for wants. One who follows through the author's ingenious discussion of the loan fund, the conditions of its existence and its relation to capital values, cannot,

however, accept this as a true account of the doctrine. It is productivity theory at its best, defended with extraordinary ability.

That this doctrine of the loan fund is fully worked out Davenport does not claim. With the charming frankness that usually characterizes original thinkers, he says, of an important part of the doctrine, "It is merely offered by the way as the best that the present writer can at present accomplish" (p. 350). We may venture to predict that when the doctrine has been more fully worked out, it will relate the long time investment fund more clearly to thrift, and will, for the most part, confine to short time investments the loan fund "created" by banking practice. It is true that banks may "carry" bonds for a time, just as they carry mercantile paper, through an increase in their deposits. Or they may invest part of their reserves in bonds, which amounts to the same thing. But the bank's relation to the long time investment is usually little more than that of agent of placement. The great investment banks of France would hardly scatter branches throughout the communes, to gather up small *économies* for investment in Russian loans, if they could provide for the loans by mere creation of bank credits.

However loan and investment funds may originate, the volume available at any given time has an immediate bearing upon the price at which new capital offerings will be taken. This every financier realizes, and in his calculations as to the advisability of a new flotation, he attempts to form an opinion as to the extent to which the investment fund has been depleted by previous flotations. These facts and the conclusions consequent upon them can, of course, be squeezed into the mold of the time-value interest theory. Not, however, without serious prejudice to their real nature.

VII

In his final chapter Davenport draws together the threads of his argument and attempts to show the practical consequences deducible from it. Every man has a right to hang on his own Christmas tree gauds according to his own taste; but he cannot expect us to believe they grew there. The chapter begins with an enumeration of doctrines that in Davenport's opinion converge to make one stupendous error: (1) the doctrine of unproductive labor; (2) the guidance of the Unseen Hand; (3) Natural Law. These he proposes to destroy. The first of them, being already dead, is disposed of in a preliminary paragraph by a logical refutation. Yet one would say that an economist who defines wages so broadly as to cover the takings of a beggar at the street corner or those of a collector for a philanthropy whose agents keep all they get, should attempt to revive the distinction between productive and unproductive labor. And indeed it ought to be revived. Time was when all men, the economists included, knew how to distinguish between the employees in a man's shops, who help him to make his income, and the flunkeys and parasites in his house who help him spend it; when no insuperable difficulty was encountered in distinguishing between the working cattle that help to produce a crib of corn and the colony of rats that the corn inevitably attracts. To the economists of today they are all one. John Stuart Mill, through his attempt to found the distinction on the point of materiality and immateriality, put a spell upon us. We shall probably never see clearly again.

The "doctrine of the Unseen Hand" is, of course, the optimistic doctrine of the providential harmony of private and public interest. Many years ago Professor

Veblen stumbled across a passage in Adam Smith's *Theory of Moral Sentiments* which he rightly judged to be of great controversial effectiveness. The passage runs as follows: "The produce of the soil maintains at all times nearly that number of inhabitants which it is capable of maintaining. The rich only select from the heap what is most precious and agreeable. They consume little more than the poor, and in spite of their natural selfishness and rapacity, tho they mean only their own conveniency, tho the sole end which they propose from the labour of all the thousands whom they employ, be the gratification of their own vain and insatiable desires, they divide with the poor the produce of all their improvements. They are led by an invisible hand to make nearly the same distribution of the necessities of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus, without intending it, without knowing it, advance the interest of society, and afford means to the multiplication of the species" (Part IV, Ch. I).

A close examination of this passage and its context will show that it is a genial rendering of Mandeville's cynical paradox, "Private vices, public virtues," with a slight infusion of moral commonplaces from Horace. It is obviously from Adam Smith's pre-economic period; in his maturer years he would not thus have glorified wasteful consumption. The "invisible hand" is the hand that limited the capacity of the rich man's stomach. The expression is a mere figure of speech, with Adam Smith, just as "providence" usually is. So much for the real significance of the "invisible hand." Professor Veblen, with his keen eye for controversial values, however, pronounced this phrase the key to all orthodox economics, classical and modern.

With this key you can unlock every door in the economic temple. What you will see is that economics exists for the purpose of "justifying the works of God to man." Duplicates of this key are in the possession of all Veblen's disciples, and Davenport includes one of them among his Christmas tree ornaments. With it go other historical interpretations, of which one of the most curious is the statement that the Physiocratic school desired "accumulation rather of population than of wealth" (p. 507). Can it be that any one has forgotten what happened to the populationist Mirabeau when Quesnay fell upon him?

To describe all the decorations of this chapter would require too much space; let us confine ourselves to the solemn injunction to the economists to accept Davenport's definition of capital. "Economists will do well forthwith to recognize that rights of patent and royalty are capital; that rights of tribute through franchise privileges are capital; that police permits to rob passers-by are capital; that legislative authority to rob importers, both early and late, is capital; and that generally every basis of private acquisition is by that very fact capital" (p. 519). And suppose we fail to extend the meaning of capital to these limits, what disaster will befall us? We shall fail to recognize "that some of the capital is iniquitous and disastrous for social welfare as other of the capital is beneficent" (p. 529). This amounts to saying that if we continue to draw a distinction between productive and purely acquisitive capital, we shall be unable to see that the two are different, and mix up their fates in our prayers.

I have already indicated my estimate of the value of this book to the specialist in economic theory. When interest in theory revives sufficiently to make advanced courses in theory practicable in the colleges, it will

serve as a text hard to surpass. Certainly it has not at present its peer for variety and fruitfulness of theoretical discussions. An announcement by the publisher suggests that it is intended also as an elementary text. As there are all varieties of needs to be met by textbook makers, this work may in some cases be suitable for such use. But it will be a brave instructor that will put so spiny an object into the college sophomore's nosebag.

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FIRE INSURANCE RATES AND STATE REGULATION

SUMMARY

I. Introductory; peculiarities as regards fire insurance rates in the United States, 447. — How the price of indemnity differs from ordinary prices, 448. — II. The theory of these rates, 450. — Classification no sure way of measuring hazard, 452. — Analysis of hazard into component parts, 453. — Influence of geographical area, 455. — III. Conflagrations a disturbing factor in the United States, 457. — IV. State regulation of three kinds: (1) Valued policy laws, 458. — (2) Anti-coinurance laws, 460. — (3) Anti-trust laws, 462. — Conclusion, 464.

I

INTRODUCTORY

RATES in fire insurance, in common with rates for other services which vitally affect the public, are now the subject for much discussion and legislation in the United States. The determination of fair rates in fire insurance is peculiarly difficult in this country for the following reasons: first, on account of the complexity of the elements entering into the cost of the service; second, on account of the past and prospective presence of conflagrations; third, on account of the legal status of insurance in the United States. A few words of introduction will serve to make more clear these peculiarities.

First, as regards rates and cost, two methods of determining fire insurance charges have been followed. In the early history of fire insurance, buildings were divided into the two classes of frame and brick, upon which a rate on the basis of past experience and per-

sonal judgment was determined. In the evolution of rate-making, distinctions came to be made between classes of buildings within these two general classes. Special agents, acting with local agents, made all the rates. Later, selected representatives from companies made the rates for all companies for a city. Little effort was made to analyze the factors entering into each risk. It was a method of applying personal judgment and interpreting past experience. Altho the result was in some cases satisfactory, yet the general disregard of the good and bad features in a particular risk did not sufficiently differentiate the particular risk from the fictitious average risk. Later came the second method, under which various systems of schedule rating were developed in which an analysis of the component elements in the risk is made. The application of these schedule systems is now very generally made by organizations independent of the insurance companies.

Fire insurance is an indemnity for the whole or partial loss of property, but the cost of this indemnity cannot be determined with accuracy at the time the indemnity is sold. That is to say, if the cost of the service theory should be accepted as a proper basis for determining the charge, there is no assurance that the price charged will be equal to this cost, since so many variable factors affect the cost.

Whatever the merchant sells has been bought in the open market, and his selling price is ordinarily determined by adding the cost of freight, rent, clerk hire, fuel and light, together with such profit as he may regard as adequate. A manufacturer buys his raw material and by adding cost of labor, operating expenses, interest on his plant and his profit loading, he fixes the price at which he desires to sell his manufactured goods. A common carrier knows approximately what it costs to

transport passengers or merchandise by water or by rail. Whoever has anything to sell attempts to fix in advance the price of what he sells so that he may derive a profit. But the insurer sells neither merchandise nor labor; he sells promises to pay in the form of a contract of indemnity against loss caused by the happening of an uncertain event. But when he sells his contract of insurance — or more properly speaking his bond of indemnity — he has no means of knowing whether he will be called upon to pay the stipulated indemnity in whole or in part.

Supply and demand do not affect the price at which this indemnity is sold in the same manner in which supply and demand affect the price of commodities. The losses which occur after the price is determined are the final determinants in fixing this price, and these losses are beyond the control of the insurer. In certain cases, as in preferred risks upon which losses are very likely to be low, a condition of surplus of supply of insurance may exist. This condition may tend to establish inadequate rates. On the other hand it may happen that the supply of insurance for other classes of undesirable risks tends to be below the demand. The result is that the forces of demand and supply do not establish that equilibrium which produces fair prices for all classes of risks.

In the second place, conflagrations introduce a very large disturbing factor in any assumed system of rates which seem at the time equitable.

In the third place, insurance in the United States is a subject under the complete regulation of the states, having been declared neither commerce nor an instrumentality of commerce by the United States Supreme Court. The significance of this fact for rates is that there is a strong tendency on the part of states to estab-

lish the state as the geographical unit for rate making purposes. This may seriously prevent the proper working of the law of average, especially in a country where conflagrations are yet common.

II

THE THEORY OF FIRE INSURANCE RATES

On the part of the public there is very little accurate knowledge as to the nature and purpose of fire insurance. The average person considers it in much the same light as he does any common subject of sale and purchase. He assumes that he may go into the market and purchase as much or as little as he chooses at so much per unit of measurement. He confuses it with life insurance, concerning which he has gained considerable knowledge during the last decade. He purchases as much life insurance as his saving power enables him. But fire insurance has no direct relation to saving, but is always a question of indemnity for property loss. The individual demand cannot be measured in fire insurance by the ability and desire to purchase, but must be limited by the value of property possessed; whereas in life insurance full operation of effective individual demand may be permitted, except as it is limited by the physical condition of the applicant, or a maximum limit of insurance in a particular company. That is to say, an individual in normal health could purchase without injury to the business or to other people all the life insurance he desired; but the amount of fire insurance which he should be permitted to purchase is limited by the value of his property.

The simplest statement of the theory of fire insurance rates is that the rate is a resultant of the property loss, the expense element, the maintenance of the reserve

required by the various state laws and a provision for a return on the capital invested. The interest rate is over considerable periods of time a relatively constant factor. It is the property loss element in the final cost which fluctuates. This property loss is for any one year an indeterminate and largely an independent variable. The burning rate is always in process of change, and the range of it on an annual basis is sometimes very great. The fluctuation for a year in the total loss ratio may vary as much as 20 %, and the loss ratio on particular kinds of property, or upon all classes of property in particular regions, may vary much more. Yet rates for the future — since fire insurance is a service sold for future delivery — must be determined. The only correct method is an analysis of the numerous hazards which make up the fire loss. Past experience must, therefore, play a large part in supplying a basis for this analysis. The true measurement of fire hazard is the placing of every risk in its proper relative position, and while this position of relativity may change from year to year, yet each factor contributing to the hazard should, so far as is possible, be in the proper relation to the total charge.

It is a common doctrine in determining prices that each product should bear its total costs of production. Since insurance is an element in the total costs of producing a product, it is assumed by many that industries should be classified as the only method of assessing this cost of insurance. There is also another aspect to classification, namely, that the class should be limited to the property in a particular state. Both these ideas contain elements of danger as well as impracticability. If the first idea means that a particular business, as for example drug stores, should be placed in one class, for purposes of determining the insurance charge, the

contention cannot be supported either on grounds of theory or practicability. It is true that classification has some value in arriving at insurance costs. Experience of losses on classes of property may aid in deciding upon base rates to which the more completely analyzed elements in the risk may be added in arriving at the final rate. Then, too, certain kinds of property have not had a system of schedule rating worked out for them; nor is it important to apply a minutely analyzed system to those kinds of property, as, for example, dwelling houses, which have a large degree of uniformity. In such cases, rates based upon the general experience of such classes of property may when properly applied have no territorial, personal, or property discrimination in them.

It can be accepted as true and desirable that each product should express in its selling price its total costs of production, but the insurance element entering into the price of the product can be determined in a more accurate manner than by mere classification. What is sought to be measured is the degree of likeness or the amount of sameness in the quantity of the hazard in the individual risks. Fire hazard is not as a totality inherent in the property itself. It is made up of internal and external elements, as well as intangible factors. These may be enumerated: the character of the construction material; the character of the occupancy; the manner or use of the occupancy; the character of the surroundings, or the exposure; and, finally, the character of the owner or occupier of the buildings. This last factor in the hazard is known as the moral hazard and manifestly is difficult to appraise in its true bearing on the fire rate. It follows, therefore, that all drug stores, or all wholesale dry goods establishments cannot be said to have a unit, unchangeable expression of their

hazard. A wooden drug store in an outlying district may have quite as low a hazard as a brick one in a congested district, or a hardware establishment may be equal in its hazard to some one dry goods establishment.

If the hazard of two risks of a certain class, as for example drug stores, is approximately the same, this is a matter of accident. It is quite as possible that the difference in the amount of hazard of two such risks will be greater than the difference in hazard between one of these risks and a risk in an entirely different business. It is, therefore, the elements that go to make up the hazard which should be the starting point of analysis and not the class of risks themselves. Nor would such a method of procedure vitiate the economic principle that each product should bear its total costs of production. Indeed it will most readily and accurately determine its true total costs. Nor is the least significant result of such a method of determining insurance costs that it will have a powerful effect in reducing the unnecessarily high losses by fire in the United States. The total hazard thus determined of each risk is composed of numerous elements. Each factor in the building contributes to the hazard or reduces it, and each property owner knows how to reduce his rate by improving the condition of his property. The method also establishes a time basis for classification. Public officials supervising insurance then have a basis upon which to decide the equity of rates among classes of property. Like hazards should bear like rates, but the similarity of hazards cannot be determined from the starting point of the particular business classified according to its product.

Confusion often arises in this particular by an unwarranted assumption of similarity between fire and life insurance rates. The chief elements of the risk in life

insurance are found in the mortality rate and the investment rate. The burning rate in fire insurance corresponds, so far as there is any correspondence, to the mortality rate in life insurance. There is, however, greater homogeneity among insured lives than among insured property. In life insurance, a selection of normal lives has been made by the medical examination, and while these lives lend themselves to certain classifications upon the basis of sex and age, and while experience of each insured group shows certain variations from the assured rate of mortality, yet this original selection of normal lives assures a large degree of homogeneity in the group. In fire insurance there are many kinds of property, differing not only as to construction but also as to the particular use made of it and the protection from fire about it. Heterogeneity, not homogeneity, is the characteristic of the fire insurance risk.

The basic principle which is the foundation of equitable rating between persons and fair rates to the public is then the analysis of a hazard into its component parts. There is thus established a standard for each part and a scale of charges and credits for any deviation from this standard. Under a developed system of schedule rating, a rate is made up of plus and minus elements, and a true basis of classification is thus supplied. It must be admitted that such a method of measurement is not absolutely complete. There is in the system of schedule rating a basis rate which is said to represent the unanalyzable elements in the hazard, or the residuum of hazard. But this is not a vital objection. The method is infinitely superior to a rough and ready one of assessing fire charges on the experience of past years or series of years, either by the officials of the company for the whole country, or by groups of

companies' agents for a particular territory. It must also be recognized that the public could not and does not demand such nicety in the analysis of other total costs of products in order to justify the demanded price from the sellers of products and services. It is only recently that the demand has been made upon railways for a justification of their demanded price. These rating schedules are being continually improved and must commend themselves increasingly to the public and its insurance supervisors.

Granting that such a theory of determining rates should be accepted, the problem is not yet solved, because it leaves out of consideration the geographical area upon which the experience should be based. In pure theory, an analysis of the fire hazard of a state or any other local political area would arrive at the exact cost of the fire protection; but it would not be insurance. True insurance is not only a calculation of a risk but a distribution of it. The area of distribution must be sufficiently wide to make the burden of cost upon each less than he would bear as an individual. The single risk, or even a limited number of risks made into a class, as might be true in a single state, is a risk with no insurance.

Every purchaser of insurance should benefit from distribution, and the rarity of his risk or the size of it ought not to interfere with this privilege of a broad distribution. The rate for the particular individual may be ten times as great as the average rate for the country or even higher than the average rate for the class in which he is located; but his rate still is lower because he belongs to a group whose rates are based upon a wide distribution.

If a state should insist, as undoubtedly it has the legal power so to do, that rates should be based upon

the actual experience within the state, it must realize that this may mean very heavy burdens, and so long as conflagrations are prevalent, impossible burdens. It could not claim the exclusive state benefits of years of low rates within the State, and then when heavy losses occur, transfer its rates to a national basis. If, in a selfish manner, it refused to consider national losses in making its state rates, it would have little ground in morals to expect assistance at the time of a heavy loss within the state, and even less good grounds to increase rates upon all property within the state after the heavy loss occurred. There is little reason to argue for a community of state interests in this respect as contrasted with the community of national interest. It does not follow that a state which has by careful supervision over fire losses, good building codes, fire prevention devices, and other measures reduced the fire loss will be penalized by the carelessness of other communities. The system of analyzing the amount of fire hazard by its credit and debit items removes this objection.

The aggregate premium collected constitutes a fund from which all losses and expenses must be paid, and a sum set aside each year to constitute the unearned premium reserve. This unearned premium is a sum held in trust by the company for its policy-holders. It represents that portion of the protection paid for, but not yet earned. After these sums are deducted from the aggregate premium, the remainder constitutes the "underwriting profit." This balance includes both interest and profit. Some years show an underwriting profit and some years a loss. During any one year, some companies show a larger profit than the average profit, and in some cases no profit at all for the year. No one year nor any one company affords a basis upon

which to reach a conclusion either as to profitability of fire insurance, or as to the proper rates for the succeeding year. For example, the underwriting profit for the past several decades in fire insurance has been negligible. Whether the expenses are too high, or whether the rates are insufficient, are entirely different questions.

III

CONFLAGRATIONS

Conflagrations, from which most European countries are free, are a very disturbing factor in making fire insurance rates in this country. The general absence of conflagrations in Europe as compared to the United States is due to the following causes: difference in the character of the construction material; difference in the building codes; difference in laws referring to the use of buildings and the occurrence of fires.

Our strong individualism, as well as the economic interest involved, has made us unwilling to submit either to strict regulations governing the construction and use of buildings, or to the inquisitorial methods often followed in order to determine responsibility when a fire occurs in many European countries. We have believed it has been cheaper to build and burn, then build again, than to build substantially. If a tenant or occupier were brought before a magistrate to show cause why he should not be penalized for permitting a fire to occur in a building, the average citizen's most cherished ideas of liberty and freedom would be violated. Yet a fire in any city is not a private matter. The public interest involved becomes more apparent with the growth of cities and the enormous losses resulting from recurrent conflagrations.

No other factor suggests so strong an argument against the practicability of making rates upon the experience of a particular state, whatever may be the additional weakness of the plan on purely theoretical grounds. The frequent disposition of the uninformed to quote the practice of European cities in this respect proves nothing when applied to the United States. It is doubtless true that the officials of the companies have in the past distributed this conflagration loss by crude methods, but distributed it has been. It is very questionable if the states will be willing to provide for this conflagration loss, either if they make or closely supervise the rates. The citizens may readily admit the justice and necessity of distributing the loss after a conflagration occurs in their own state, but not a small portion of the late criticism against fire rates has arisen as a result of the distribution (in part) of the heavy losses due to the San Francisco and Baltimore fires.

IV

STATE LEGISLATION

There remain to be considered some of the important characteristics in the practice of rates as affected by state statutes. There are laws of three sorts in force in many of the states, which may be taken as an expression of what rates should be in practice according to the legislators, as compared to what they should be in theory. These laws are the valued policy law, the anti-coinsurance law, and the anti-compact law.

(1) The valued policy law is in brief that the value expressed in the policy shall be taken as the true basis of settlement. The company must pay the sum stated in the policy. This would seem upon first consideration to be quite proper, since in a contractual relation-

ship between two parties there should be no doubt concerning the principal thing to be delivered. But a fire insurance contract is a personal contract of indemnity. The value of property is continually changing, and it is not always an easy matter for the insurance company to determine the original value of the property, to say nothing of its changing values. This would involve a very large expense for inspection. The insurer must expect the utmost good faith on the part of the insured in making the contract. Again, it is another fundamental characteristic of all insurance that the insured shall in no way gain or make a profit from the insurance contract. It therefore happens that in those states where such a law is in force an inducement is offered to over-value property and also an inducement to be careless in the use of the property. Evidence is not wanting that a number of cases of wilful destruction occur every year and during the time of an industrial depression the number of such cases increases.

The legislator and the public, in enacting valued policy laws, directed their attention solely to the conditions at the end of the contract, that is, when the fire occurred. They desired to be assured that the loss in full would be paid, and doubtless the practice of some companies in evading payment for losses is largely responsible for these laws. Yet no honestly-managed company has any objections to paying the full indemnity. The means used to correct an injustice suffered by some property owners have not worked to the advantage either of the insured or insurer. If legislators had considered the conditions of the fire insurance contract as a whole, and not the conditions at the termination of it, they would have recognized that valued policy laws increased the cost of insurance in two ways. First, there is the added expense of appraising the

property in order to avoid over-insurance. This expense must be borne by policy holders. It must be remembered that but a small per cent of insured property is destroyed, and the additional appraisal expense is borne by all for the sake of the few whose property burns. Second, in the actual working of the law, appraisals are often not made carefully, and many property owners are able to secure insurance in excess of the value of the property. This means that the honest property holder who insures his property has an additional charge levied upon him by the dishonest property holder, who thus uses insurance as a source of gain and not as a means of indemnification.

The insurance charge in this respect resembles a tax. If the rate of taxation is determined upon the true value or any specific percentage value of the property, it is essential for equity in payments that each shall return this value of the property. If any one person does not do so, the remainder will be compelled to bear so much more tax, since a certain sum of money must be raised. Similarly, if an individual collects \$1000 more fire insurance than his true loss, this sum must come from the premiums of others. Fire insurance is not a commodity, like wheat, which can be sold at a certain price per unit and which can be purchased in any quantity by any buyer without doing an injury to other buyers. No great public injury is suffered when an individual purchases ten bushels of wheat when he needed only five bushels. But the same individual cannot purchase \$1000 worth of insurance when he needs only \$500 worth without doing an injury to all other purchasers of insurance.

(2) Coinsurance is a method under which the property owner has his losses paid only in the proportion that the amount of the insurance he purchases bears

to the amount of the insurance which the company normally expects or requires him to buy. That is to say, he becomes a coinsurer for himself with the company.

The anti-coinsurance law is, therefore, one which prohibits an insurance contract from containing a clause which makes the insured an insurer with the company in case his property is not insured to a certain per cent of its value. It is just as important that property be not under-insured as that it be not over-insured. To prohibit such a clause is to make impossible the measurement of fire hazard and the apportionment of it. There must be some one uniform ratio of insurance to value. It makes no very great difference what this ratio is. In practice it has become 80 per cent. Some property, however, cannot be insured at 20 per cent of its value and other property at 80 per cent of its value, if the charge is to be equitably apportioned.

The prevalence of such a law has worked great injustice to small property holders in favor of owners of large and diverse property. The owner of the shop, the store, or the farm is prompted by his own interest to insure his property for a sum near to its true value, since the loss of it means much to him. But the owners of large and distributed manufacturing property, or large mercantile properties, and other properties which are frequently housed in fireproof and separated buildings, and in cities with good water and fire department protection has no such inducement. The losses of the latter are likely to be only partial, and a small amount of insurance gives a large amount of protection. Insurance for 30 per cent of the value of the property may in the latter case protect as well as 80 per cent of the value of the property in the former case. It is desirable that

the owners should each insure to the same value, and in case a class of owners do not, they should become coinsurers with the insurer for the difference in value between the insured value and the stated basis, as for example, 80 per cent. There is no other one cause of so much discrimination as the practices encouraged by these anti-coinsurance laws.

It must be understood that a coinsurance clause has no effect upon the amount due to the insured in the event of a loss, large or small, if the amount of insurance carried by him equals or exceeds the percentage of the whole value of the property insured which the coinsurance clause requires. The clause is of no effect when there is a complete loss, or when the damage equals or exceeds the percentage of the total value insured which is stipulated in the coinsurance clause. It is only when there is a partial loss which destroys a smaller percentage of the value of the property than that stated in the coinsurance clause. The importance of the clause is increased by the fact that the greater number of losses are partial losses. The relation of this anti-coinsurance law to the valued policy law is important. The practical operation of the former law is to encourage the under-insurance of property. In either case the cost of insurance is increased, and inequitable rates as regards different states and different individuals in the same state result.

(3) The third set of laws which illustrate the difference between insurance rates in theory and practice is the anti-compact laws. These laws are very common in the insurance legislation of the States. In brief they prohibit the companies from agreeing upon uniform rates. They express the firm conviction on the part of many people that competition is always desirable. It is assumed that any evidence of a uniformity

in charges for goods or service is proof of monopoly. It is not recognized that the companies have little control over the chief element in the cost of the service, that is, the burning rate.

There are two other elements in the cost of the service besides the burning rate, viz., the expense element and the investment return. Over the expense element the company does have some control; but it has very little control over the element of investment. The interest rate is largely independent of the companies. Thus two of the three factors which finally determine the rate of charge are largely independent of particular company influence. Nevertheless, competition has sought to be enforced by prohibiting companies from acting jointly in the measurement of fire hazard, and agreeing upon a common basis of rates. Reckless operation has thus been encouraged on the part of some companies. Rate wars have occurred. Large fluctuations in rates have been common. Doubtless many individuals have benefited at these times of rate wars by securing a lower rate. But the practise has also made possible discrimination between the large property holder who could bargain more successfully, thus defeating the assumed purpose of anti-trust laws. Not least, such laws have failed to reduce the fire loss.

Notwithstanding the numerous laws which have been enacted in different states to prevent monopoly, the evidence against the existence of monopoly in fire insurance is undoubted. The late realization of the potential danger of monopoly, due to disclosures of evils experienced, has made the public super-sensitive and lacking in discrimination as to evidence of monopoly. Some states have enacted anti-trust laws under which insurance companies could be prosecuted for the most trivial agreement in regard to methods of con-

ducting the business. Missouri passed a law which stated that the use by two companies of the same schedule of rates should constitute a violation of the anti-trust law, notwithstanding that these schedules were made by an independent organization not engaged in the insurance business. The companies generally prepared to withdraw from the state, when they were informed that this agreement to withdraw was also a violation of the anti-trust law. It was finally agreed that the law should not be enforced, pending an investigation of the whole subject of fire insurance by a special commission.

In those states and countries where no anti-compact laws are in force, there is no real evidence of monopoly. New companies are organized. There is at present the greatest need to compel companies to agree upon rates and to enforce an adherence to such rates, derived from past experience and a proper analysis of fire hazard. Nor would such an enforced agreement mean that the fire charge would be stationary, nor that approval would be given to a stated expense element in the final charge. Each company would have an inducement to practise economy in expense, and to increase its efficiency in whatever manner this was possible. The price of the service under such conditions would be a reflection of the most efficient producing unit.

The state might, theoretically, make just as scientific rates as is now done by private organizations and the companies, but those who argue for the assumption of such a function by the state should be able to answer clearly two questions: First, what are the grounds for the state's thus invading the field of private business? What is the nature of the public injury threatened which under our theory of government would justify this extension of its functions? Second, what assur-

ance can be given that under such a system due consideration will be given to that wider basis of rating which is necessary to secure fair rates for all? Would not state interest demand that undue consideration be given fire losses in the particular state?

Further, since insurance is so completely a subject for state regulation, it may be asked what can be gained by a system of state rating which could not equally as well be secured by a proper supervision of rating.

Summing up, we may say that the public is primarily interested in the fire insurance contract in order to assure the buyer of insurance that the seller is able to fulfill his part of the contract. This interest is peculiarly justified by the fact that the buyer has no satisfactory means of determining the solvency of the insurance company. The thing sold, that is, indemnity, has no tangible expression by which the buyer can judge its quality. This fact is also the basis for the present agitation for the enactment of laws which will give to a public official the power to supervise the organization of companies, the sale of their stock, and their liquidation in case of insolvency. The state may also properly supervise rates in order to secure equitable charges for all purchasers of insurance. The working of competition will probably prevent excessive returns for the service rendered as a whole, but it cannot prevent discrimination between individuals and classes of property.

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RENT UNDER THE ASSUMPTION OF EXHAUSTIBILITY

SUMMARY

The abstract character of the conception of land as the basis of rent, 466. — Modification of the rent theory according to the possibility of preventing exhaustion, 469. — Effect of the assumption of exhaustion upon the economic intensity of utilisation, 471. — Influence of the rate of interest on intensity of utilisation, 474. — Influence of prices on intensity of utilisation, 477. — Determination of the extensive margin, 480. — The so-called royalty from mines forms a part of economic rent; Ricardo's discussion, 481. — Relation of royalties and rents to prices, 485. — Incidence of taxation under the modified assumptions, 486. — Conclusion, 488.

IN the infancy of economic science rent was distinguished from other forms of income as the periodic return from the use of land. And because land itself was regarded as one of the great agents in production, the existence of a peculiar type of income attributable to it appeared particularly suitable.

This complete correlation between rent as an income and land as its source was not destined to continue. In the England of the classical school rent was usually a form of income which seemed to leave the basis of income unimpaired. Year after year the landowner might receive a substantial return without decreasing the capital value of his investment. It is not strange that the imperishability of the basis of rent came to be considered an essential characteristic of rent as a form of income. It became necessary, therefore, to define anew the basis of rent so that it might conform to this preconceived essential characteristic of rent itself. Accordingly Ricardo modified the economic concept of land as the source of a rent payment, and introduced the

assumption that rent is a payment for "the original and indestructible qualities of the soil." Later writers have interpreted Ricardo's criterion of land more rigorously than did Ricardo; and after passing through a process of gradual refinement, the Ricardian assumption has been reduced to its extreme form in Professor Commons' conclusion that the property of extension is the essential quality which distinguishes land from other kinds of goods and constitutes the basis of rent.¹ Thus the concept of land as the basis of rent has been gradually reduced to an abstraction.

A practical man might well ask why it is necessary to develop an elaborate and peculiar doctrine to explain the value of the services of natural agents when by very assumption a large part of natural agents are excluded from the scope of the explanation. Why must rent be a payment for an original and indestructible property in order to be rent? The question is a part of the long continued dispute as to the desirability of distinguishing land from capital, and rent from other forms of income. It is not necessary, however, in this connection, to wander so far afield. This question may be disregarded if it can be shown that indestructibility is not a characteristic which separates rent from other forms of income. The ground will then be clear for a reconsideration of the rent theory under the assumption of exhaustibility.

In one sense there is no basis of rent which is imperishable. For there is no conceivable basis which might not lose its utility, and therefore, its ability to yield a rent. A change in social demand may cause even the property of extension to lose the ability to yield a rent. However, it may be alleged with justice that the word *indestructible* has been employed by

¹ Professor Marshall seems inclined to a similar view, altho he has not come out unreservedly in its favor. *Principles of Economics*, 5th ed., bk. iv, chap. ii, sec. i.

Ricardo and his followers in quite another sense: in the sense that the use for which rent is paid does not cause the impairment of the basis of rent. In this sense the basis of rent may be indestructible. The clearest illustration is urban land. In the case of agricultural land also it is frequently possible to isolate the income attributable to the indestructible properties. When the elements which are exhausted are economically replaceable, the expense of replacement determines the value of the exhausted elements; and the remainder of the total surplus may be considered the rent of the inexhaustible properties. In many cases, however, it is not possible to isolate the returns assignable to the indestructible properties. In the case of mines, for instance, it is impossible to separate the value of the exhausted properties from the value of the inexhaustible properties. It is easy to determine how much the capital value of a coal mine is reduced by the process of use. But this capital value is nothing more than the present value of the surplus income from the mine during a period of time, — that is, the present value of the total rent which it will yield, — and this rent consists of two indistinguishable elements: the return for the coal used up and the return for the site value of that coal. A similar impossibility exists in the use of agricultural land when it is more profitable to exploit the soil than to conserve it: for instance, under frontier conditions.

It seems clear, then, that under the Ricardian assumption rent may be referred to a small part only of the total category of natural objects. Moreover it is frequently impossible to distinguish rent from the income of the destructible elements. These facts appear to justify an attempt to alter the Ricardian statement of rent in such a way as to avoid the necessity of assum-

ing that rent is paid only for the "indestructible qualities of the soil."

Exhaustion consists either in a change of place or in a change of form. Coal may be removed from a mine and continue undestroyed. In this case the exhaustion is merely relative to a given locality. So far as the theory of rent is concerned, it is the exhaustion with reference to a particular locality that is of primary importance whether the valuable elements are absolutely consumed or merely removed to another location.

This exhaustion with reference to location may be prevented by restoring other elements of the same kind in place of those removed in the process of utilization. Whether or not this is true depends to a large extent upon economic conditions. For instance, it is physically possible to restore a forest, but such a restoration may not pay. It is even physically possible to restore mineral that has been removed from a mine, but it is hardly conceivable that it would ever be economical. Even in the case of agriculture, the experience of the world has abundantly proven that restoration is frequently unprofitable. In this sense exhaustion may be characteristic, under certain conditions, of nearly all natural objects.

The relation of the assumption of exhaustion to the theory of rent largely depends upon the possibility of preventing exhaustion so far as a given locality is concerned. It is necessary, therefore, to consider several cases which may be presented schematically as follows:

1. Prevention of exhaustion is economical.
 - (a) May be effected without additional expense.
 - (b) Requires additional expense.
2. Prevention of exhaustion is not economical.

When prevention requires no extra expense, the Ricardian theory is not invalidated by the assumption of

exhaustion. The entire return attributable to land is a surplus which accrues so long as the conditions of demand and supply remain unchanged. Exhaustion occurs; but the process of restoration is merely incidental to the process of most profitable utilization. Likewise, the assumption that exhaustion is preventable, provided it is profitable to incur an extra expense for that purpose, does not seriously impair the Ricardian theory of rent. The extra expense either may be considered a part of the expense incident to the process of production or may be charged against the land and deducted from its net return. In both cases the rent, after all deductions are made, will be the same. The difference is merely one of accounting.

In those cases where the prevention of exhaustion is either impossible or unprofitable, a considerable readjustment of the rent doctrine is necessary if the assumption of inexhaustibility is to be avoided.

Under the assumption of inexhaustibility land resembles labor in the sense that it perishes through non-use rather than through use. If it is capable of furnishing a valuable service year after year, the failure to utilize it in any year is the source of loss, just as labor suffers loss from unemployment. When, however, it is assumed that the benefits that may be derived from the natural object are exhaustible and non-replaceable, the point of view is altered. The owner of a valuable coal deposit, for instance, desires to derive the maximum benefit from the limited supply which he owns. If for any reason less benefit can be derived by immediate removal and sale of the coal than by waiting until some future time, it may be profitable to postpone utilization.

The simplest condition that might produce this result is an expected alteration in the price of coal. If the price is rising and the prospect is that the rise will

continue, the owner of the mine will find it to his interest to take out but little coal in the present. This is true because the resources at his disposal are limited. Obviously this motive would not exist if the basis of income were perpetual. Likewise a lowering of the prices of those factors which enter into the expenses of production will make profitable a postponement of removal. On the other hand, a decrease of prices of the product or an increase of the prices of the factors of expense, in so far as such changes are continuous or anticipated, will create motives for rapid utilization.

Outside of mere price change, however, the owner of the mine will be moved by still more fundamental considerations. One of these considerations is *diminishing productivity*.¹ According to the Ricardian theory of rent the landowner will find it to his interest to add units of labor and capital to a given surface of land up to the point where the last unit applied just equals the product which might be derived from its employment on marginal land. In familiar phraseology, labor and capital are added up to the intensive margin of cultivation. According to the theory, such a ratio between the factors of production will yield the maximum rental to the landowner, under the given conditions. The exhaustibility of the natural resource, however, dictates a different course. The owner of the mine may well hesitate to proceed beyond the point of maximum average returns per unit of expense.² At this rate of removal the average net return per ton of coal is a maximum, since the average expense of removal per ton is a mini-

¹ This phrase is used to designate the decrease in product which results from the increase in the expenditure for the other factors of production applied to a given surface of land.

² In a strict productivity theory of distribution it would be necessary to continue the comparison of the units of labor and capital instead of substituting units of expense, since the latter assume the determination of the value of labor and capital. In the consideration of the policy of a single entrepreneur, however, it need not be seriously inaccurate to employ the more convenient and more easily illustrated idea of expense.

mum. The attempt to appropriate the coal more rapidly results in a diminishing product per unit of expense and, therefore, a diminishing average net return per ton of coal. Were the mine owner influenced by no other consideration, his interest would demand that no more coal be removed at any time than can be removed at a minimum average expense per ton. If he is willing to wait for the return from his coal, he can postpone for future removal all coal over and above that amount which can be removed at a minimum average expense per ton.

The point may be illustrated by the accompanying table, which shows the results of removing various quantities of coal from a mine during a definite period of time — one year. It is assumed for convenience that each ton of coal is worth \$1.00; so that the same figures represent both the quantity and the value of the product.

TABLE I

Variations in the Net Return in the Removal of Varying Quantities of Coal in a Given Period of Time

Quantity of coal removed (tons)	Value of coal removed (dollars)	Expense of removal per 100 tons	Total net return	Average net returns per 100 tons	Increase in expense due to the removal of each add'l 100 tons	Net return of each additional 100 tons after the point of maximum net returns per 100 tons
100	100	\$120	—\$20	—\$20	...	...
200	200	100	00	00	...	...
300	300	80	60	20	...	...
400	400	50	200	50	...	...
500	500	52	240	...	\$60	\$40
600	600	55	270	...	70	30
700	700	59	287	...	83	17
800	800	64	288	...	99	1
900	900	68	288	...	100	0
1000	1000	73	270	...	...	...
1100	1100	79	231	...	...	...

The figures in the table show that the minimum average expense per ton is achieved by taking out 400 tons of coal during the year. If more than this amount is removed, each ton will yield a smaller net return than if its removal is postponed until it may be effected at the minimum expense. Were the mine an inexhaustible basis of income, there would be no necessity for solicitude on account of the fact that each ton yields less than a possible maximum. The interest of the owner would dictate the extraction of eight hundred tons of coal. At this point the value of an additional one hundred tons just equals the expense of its removal.

It is necessary to turn aside for a moment to consider certain confusions which are involved in the concepts of diminishing productivity and diminishing returns as applied to mines.

Some writers have denied that a mine is subject to the law of diminishing productivity. Altho admitting that the extension of mining to other fields as well as to lower depths may be subject to diminishing return, Professor Marshall appears to deny the diminishing productivity which results from an attempt to accelerate the process of extraction by an increased application of the other factors of production to a given surface. He compares a mine to a reservoir. "The more nearly a reservoir is exhausted," he says, "the greater is the labor of pumping from it: but if one man could pump it out in ten days, ten men could pump it out in one day, and when empty, it would yield no more."¹ It is not denied that the physical possibility suggested by Marshall may occur in some cases. The probability, however, of an indefinite acceleration of the rate of removal without incurring an increased expense

¹ *Principles of Economics*, bk. iv, chap. iii, section 7. J. S. Mill expressed a similar opinion, but more guardedly, with respect to collieries and other such surface deposits, but not with respect to ordinary mines. *Principles*, bk. iii, chap. v, section 3.

per unit of result appears to be very unlikely in ordinary circumstances. Even in the case of surface deposits, such as those of the Mesabi Range, the attempt to remove the entire surface supply in a very short period would entail a much larger investment in fixed capital than would be necessary over a longer period. In the case of mines where the sinking of shafts is necessary, an increase of the rate of utilization must often mean the sinking of an increased number of shafts and the provision of a more elaborate equipment than would be required for a lengthier period of extraction. It appears fairly safe to assume that, as a general rule to which there may be certain exceptions, the law of diminishing productivity is applicable to mining as well as to agriculture.

It must be clearly understood that the term *diminishing productivity* as employed above has been used in the sense in which Ricardo used it; that is, with regard to successive applications of labor and capital to a given surface of land. The conclusion that the owner of a mine may stop short of the point where the last unit of expenditure just equals its product constitutes an exception to the modern productivity theory only when the quantity of land is measured by surface. After the quantity of coal to be removed has been determined, the ordinary statement of the productivity theory is applicable. In the removal of that coal expenditures will be profitable so long as an additional outlay facilitates the process of removal to a sufficient extent to justify the expenditure.

The influence of the rate of interest has thus far been disregarded. It is obvious, however, that the tendency for the owner of the mine to postpone for future removal all coal which would otherwise have to be removed at an increased average expense per ton is

counteracted by the fact that the present value of the return from future removal is lessened by the discount on the future. The net return from each ton removed in the present, even at an increased expense, may be greater than the present value of the same coal removed at minimum expense in the future. The basis of comparison, of course, beyond the point of maximum average net returns must be the net return from the removal of an additional quantity of coal (columns six and seven of table one), not the average net return.

TABLE II

Present Values of the Net Returns Derived from the Removal of Various Quantities of Coal at Different Future Periods with Interest at Ten Per Cent

Present Value of	No. Tons	1st Yr.	2d Year	3d Year	4th Year	5th Year	6th Year	7th Year	8th Year
The maximum average net return per 100 tons	400	\$50	\$45.45	\$41.66	\$38.46	\$35.71	\$33.33	\$31.25	\$29.41
Net return of each additional 100 tons	500	40	36.36	33.33	30.76	28.57	26.66	25.00	23.53
	600	30	27.27	25.00	23.07	21.43	20.00	18.75	17.64
	700	17	15.45	14.16	13.07	12.14	11.33	10.62	10.00
	800	1	.90	.83	.76	.71	.66	.63	.58
	900	0	0	0	0	0	0	0	0

Table II illustrates the theoretical method of determining the rate of utilization as a resultant of the two antagonistic factors: diminishing productivity and the discount on the returns from future removal (assumed to be ten per cent). If the total quantity of coal to be removed under the assumed conditions is only twelve hundred tons, there is no reason for the mine owner to remove more than four hundred tons a year; for the present value of the net return of the last four hundred tons removed in the third year is \$41.66, whereas the removal of an additional one hundred tons in the first year will yield a net return of only forty dollars. If

the entire quantity of coal is 3,700 tons, the owner of the mine will find it desirable to remove six hundred tons in the present; for the sixth hundred tons could not be removed at any time in the future so as to yield a greater net return than thirty dollars. If postponed until the eighth year, the present value of the net return is only \$29.41.

In the theory thus far presented, certain conditions have been left out of account for the sake of simplicity. In the first place, it is assumed, with Ricardo, that the landlord has the option of leasing the land to others or of using it himself. This assumes, of course, that the landlord will so adjust the contract in case of a lease that the mine will yield the maximum rent which might be derived from his own utilization. The limitations of this assumption need not be further considered here.

In the second place, the ideal rate of utilization illustrated above implies operation on a large scale in the first year, with a decline in the magnitude of operation in successive years. It will be necessary to employ a larger amount of fixed capital in the first year than in successive years. A part of this fixed capital provided for the larger scale of operation in the first year will be wasted. It will, therefore, pay for the entrepreneur to adjust his rate of removal so that the rate of utilization will be more nearly uniform. This rate will be somewhere between the two extremes represented by the maximum rate of utilization in the first year and the minimum utilization of the last year. A third modification is made necessary by the fact that in the above consideration of the economic rate of utilization substantially constant returns were assumed. No allowance was made for the possibility that the removal of coal in the first year may change entirely the condi-

tions of removal in the second year. The removal of the 400 tons may have exposed coal which is not only of a better quality but also capable of being removed at less expense per ton than the coal removed during the first year. On the other hand, the deposit made accessible by the removal of the 400 tons may be of an inferior quality and so situated that the average expense of removal per ton will be greater than for removal in the first year. This may be true because of greater depth or special difficulties encountered, such as water or gas or the thinness of the vein of coal. In short, mining is subject either to the law of increasing returns or to the law of diminishing returns or to both tendencies alternately according to conditions.¹

The assumption of decreasing returns would not affect the above conclusions. The owner of the mine would have no motive to accelerate the rate of removal of his coal simply to get access to the less profitable coal at lower depths. Under the assumption of increasing returns, however, a more rapid removal in the present might be justified by the fact that the larger net returns from the mine are in the future and are subject to the discount. With this modification the principles of utilization as above outlined will continue applicable.

The influence of differences in the price of the product has thus far been disregarded. In an earlier part of this paper the effect of changing prices was discussed. The influence of higher or lower price levels must now be considered.

It should be noted that, were there no discount on the future, a higher price level would not necessarily change the economic rate of utilization. It might still

¹ Ricardo believed the law of diminishing return is normally characteristic of mining. *Principles of Political Economy*, chap. III. On the possibility of increasing returns, cf. *Tausig, Principles of Economics*, vol. II, p. 95.

be economical to extract the coal at the point of maximum average net returns per unit of coal, as determined by the physical conditions of appropriation and the expense of the other factors.

TABLE III

Variations in the Net Return of Varying Quantities of Coal in a Given Period of Time (Price of Coal \$2.00 Per Ton)

Quantity of coal removed (tons)	Value of coal removed	Average expense of removal per 100 tons	Total net return	Average net returns per 100 tons	Increase in expense due to removal of each additional 100 tons beyond the point of maximum av. net returns	Net return of each additional 100 tons beyond the point of maximum av. net returns
100	\$200	\$120	\$80	\$80	...	...
200	400	100	200	100	...	...
300	600	80	360	120	...	...
400	800	50	600	150	...	...
500	1000	52	740	148	60	140
600	1200	55	870	145	71	130
700	1400	59	987	141	83	117
800	1600	64	1088	136	99	101
900	1800	68	1188	132	100	100
1000	2000	73	1270	127	118	82
1100	2200	79	1331	121	139	61
1200	2400	87	1356	113	175	25
1300	2600	96	1352	104	204	-4
1400	2800	106	1316	94	236	-36

This point is illustrated in Table III, which is similar to Table I, except that the price of coal is doubled. The difference between the average net returns per hundred tons remains the same. The effect of the rise of price is merely to add one hundred dollars to the net return per hundred tons in every case no matter what the quantity removed. The point of maximum net returns is not changed.

Altho a higher level of prices does not necessarily compel a change in the rate of utilization when there is no discount on the future, such a discount will affect the relative merits of present and future removal, and, therefore, the rate of utilization. For under the higher prices the magnitude of the net return per hundred tons, both in present and in future, is increased by the same amount. Because of the increase in the amount of the net return the discount of the net return for a future use will result in a larger deduction in arriving at present value than before the rise of price. Consequently the future use will be relatively less desirable than its competing present use.

TABLE IV

Present Values of the Net Returns derived from the Removal of Various Quantities of Coal at Different Periods with Interest at Ten Per Cent (Price of Coal \$2.00 Per Ton)

Present Value of	No. Tons	1st Yr.	2d Year	3d Year	4th Year	5th Year	6th Year	7th Year	8th Year
The maximum average net returns per 100 tons	400	\$150	\$136.36 +	\$125.00	\$115.38 +	\$107.14 +	\$100.00	\$93.75	\$88.23 +
Present value of the net return from each additional 100 tons..	500	140	127.37 +	116.66 +	107.69 +	100.00	93.33 +	87.50	82.35 +
	600	130	118.18 +	108.33 +	100.00	92.85 +	86.66 +	81.25	76.45 +
	700	117	106.36 +	97.50 +	90.00	83.57 +	78.00	73.12 +	68.83 +
	800	101	91.81 +	84.16 +	77.69 +	72.14 +	67.33 +	63.12 +	59.41 +
	900	100	90.90 +	83.33 +	76.92 +	71.42 +	66.66 +	62.50	58.83 +
	1000	82	74.54 +	68.33 +	63.07 +	58.57 +	54.66 +	51.25	48.23 +
	1100	61	55.45 +	50.83 +	46.92 +	43.82 +	40.66 +	38.12 +	35.83 +
	1200	25	22.72 +	20.83 +	19.23 +	17.85 +	16.66 +	15.62 +	14.70 +

This point is illustrated in Table IV, in which all the conditions are the same as in Table II except that the price of the product is doubled. At the original price of one dollar per ton the difference in the net return of the fifth one hundred tons in the present, as compared with the present value of the net return per hundred tons when four hundred tons is removed one year from the present, amounts to \$5.45 in favor of the latter.

When the price of coal is doubled, this difference disappears and the balance is in favor of the fifth hundred tons removed in the present. For the net return in the latter case amounts to \$140, while the present value of the net return per hundred tons derived from the removal of four hundred tons in the second year is only \$136.36. If the mine owner has 3,700 tons of coal subject to the assumed conditions of Table IV, he will derive maximum returns from the entire quantity by adjusting his margin of utilization as indicated by the dotted line in Table IV, which shows a more rapid rate of removal than under the lower price. (See Table II.)

Altho the influence of an increase of price is in the same direction as under the Ricardian theory, the intensive margin cannot fall so far that the product and expense on the margin just coincide, as under the Ricardian theory. For, however long the period of utilization may be and however large the discount on the future may become, the net return from the removal of coal at the point of time most remote in the future can never be reduced to zero. Hence, in theory, the competition of this surplus over expense which is marginal in time must always be great enough to prevent the coincidence of product and expense on the intensive margin of present utilization.

If we turn from the consideration of the conditions which determine the intensive margin of utilization to those which determine the extensive margin, the alteration in assumption with regard to exhaustibility does not greatly change the Ricardian formula. It is likely that an extension of the margin will occur whenever such an extension is sufficient to repay the expense of removal. Altho there will be a surplus on the intensive margin, there will be no surplus on the extensive

margin. It has been suggested that while the extensive margin yields no rent, it may yield a royalty: that is, a return to cover the value of the mineral extracted.¹ It will be apparent from the above analysis that this cannot be true theoretically. The value of the coal is due to the fact that it yields a net return above the expense of extracting it: that is, the value is a result of the rent. In order that the coal *in situ* may have a value, the conditions of utilization must be such that the coal may be extracted and sold in the present at an expense sufficiently low to yield a surplus. For, except when the mine is subject to increasing returns as lower depths are reached, or unless prices are expected to change, it is impossible that future uses may yield a surplus unless conditions are such as to yield a surplus in the present. Hence the coal in the mine on the margin which yields no rent, except in the cases above-noted, has no value which could be made the basis of a charge for depreciation. In the case of exhaustible natural objects above the margin of utilization the Ricardian doctrine of rent is characterized by much confusion. Ricardo first sought to rule out all payments for minerals and timber from the category of rent. In the chapter "On Rent" he criticizes Adam Smith very severely for the assertion that the demand for timber and its consequent high price in the more southern countries of Europe, caused a rent to be paid for forests in Norway, which could before afford no

¹ Notably, Professor Sorley in an article on mine royalties, published in the *Journal of the Royal Statistical Society* for March, 1889; Marshall, A., *Principles of Economics*, 5th ed., p. 439, note; and Flux, A. W., *Economic Principles*, pp. 108-109. In his recently published *Principles of Economics*, Professor Taussig questions the assumption that marginal mines would bear a royalty charge even tho yielding no rent surplus. Professor Taussig does not attempt to prove his point. Professor Sorley bases his position upon the argument that a landowner of a mineral deposit which is marginal must have some inducement to compensate for the necessity of incurring the bad repute of his neighbors on account of the fact that a mine is an unpopular institution. This is a question of fact which need not be discussed here.

rent. "Is it not, however, evident," says Ricardo, "that the person who paid what he thus calls rent, paid it in consideration of the valuable commodity which was then standing on the land, and that he actually repaid himself with a profit, by the sale of the timber? . . . in the case stated by Adam Smith, the compensation was paid for the liberty of removing and selling the timber, and not for the liberty of growing it. He speaks also of the rent of coal mines, and of stone quarries, to which the same observation applies — that the compensation given for the mine or quarry is paid for the value of the coal or stone which can be removed from them, and has no connection with the original and indestructible powers of the land."¹

Strangely enough, in the next chapter Ricardo develops a new doctrine. He appears to disregard entirely his previous positive denial that the return to mines or forests is to be classed as rent. His treatment of the subject is a mere extension of his previous discussion of agricultural rent without modification. "Mines," he says, "as well as land, generally pay a rent to their owner, and this rent, as well as the rent of land, is the effect, and never the cause of the high value of their produce. . . . The metal produced from the poorest mine that is worked must at least have an exchangeable value, not only sufficient to procure all the clothes, food, and other necessities consumed by those employed in working it, and bringing the produce to market, but also to afford the common and ordinary profits to him who advances the stock necessary to carry on the undertaking. The return for capital paying no rent would regulate the rent of all the other more productive mines. This mine is supposed to yield the usual profits of stock. All that

¹ *Principles*, chap. ii, section 24.

the other mines produce more than this will necessarily be paid to the owners for rent.”¹ Nowhere in his book does Ricardo make an attempt to explain the apparent contradiction. In fact, the law of mine rent as stated in chapter three is several times reasserted and illustrated, especially the point that the entire net return from a mine is rent.²

Later writers have tried to harmonize the two antagonistic principles developed by Ricardo, by combining them. It has become customary to recognize that the return imputed to a mineral deposit consists of two parts: a rent and a royalty. This plausible doctrine has been maintained by so many writers that it is desirable to devote considerable attention to it.

The essential fallacy of this explanation of mine rent lies in the fact that the so-called royalty is nothing more than a depreciation charge which results from capitalizing a terminable series of incomes. A little attention to Böhm-Bawerk's illustration of the nature of the income from durable goods would have shown clearly that the current distinction between rent and royalty is not sound. Böhm-Bawerk has shown that when the succession of incomes is regarded as interminable, the present value of the most remote in time is nothing. The income in the present is all regarded as interest. When, however, the successive prospective incomes are terminable, the present income is divided into two parts: that is, from the entire net income in the present is subtracted the present value of that portion of the income whose accrual is most remote in time. The remainder is interest; the subtrahend is a depreciation fund, or charge.³ It is this depreciation fund

¹ Principles, chap. iii, section 32.

² Notably in the discussion of the rent of woodland, chap. xii; in the chapter entitled "Taxes on Gold"; and in chap. xxiv.

³ The Positive Theory of Capital (Smart Translation), bk. vi, chaps. vii and viii.

which has been called a royalty. In short, the royalty is the product of the process of capitalization. The business man, unconcerned with socially valid distinctions between rent and interest but desirous of keeping intact his fund of capital, charges to depreciation the amount by which the total value of the mine or farm has been reduced by utilization.¹

To consider that the amount which is left in the present after the subtraction of the amount of depreciation is determined by the law of rent is to confuse the process of capitalization of a rent surplus with the conditions which determine rent itself. This amount which is regarded as the economic rent of the mine, as distinguished from the so-called royalty, is obviously a quantity which varies with every change in the rate of interest and with the degree of remoteness of exhaustibility. The true rent, indeed, in the present is not simply this amount; rather it is the whole surplus as determined by the difference between the gross product in the present and the expenses of production.² It may be said that there can be no objection to calling this depreciation fund a royalty. This is true. The objection lies in applying the term *rent* to the *residuum* after the subtraction of the so-called royalty from the total net return. For the actual amount of this so-called rent is not determined in amount by the conditions which give rise to a surplus over the expense of utilizing natural agents. It is determined mainly by

¹ Mr. J. A. Finlay, a New York mining expert employed by the State of Michigan to appraise the mines of the state for purposes of taxation, has recently used this method of capitalisation in the valuation of Michigan mines. An account of the appraisal is published by Mr. Finlay in the *Engineering and Mining Journal* for September 9, 1911, p. 488.

² In the article on mine royalties already referred to, Professor Sorley recognises the identity of rent and royalty so far as mines above the margin are concerned. As already pointed out, he attempts to show the existence of the royalty in the case of marginal mines. Professor Sorley does not attempt to explain the nature of this royalty.

the process of capitalizing such a surplus. Only indirectly is the surplus responsible for the size of this pseudo-rent, as the whole may limit the size of its parts. Inasmuch as the removal of all coal in the present, beyond the point of maximum net returns per unit of coal, is subject to the competition of future uses; it might be considered that the value of all coal extracted beyond this point is subject to an opportunity cost measured by the present value of the net return which would be derived from the coal if extraction were postponed until the future. Even this opportunity cost does not represent a value of coal in addition to the rent surplus; for the entire surplus in the present is none the less a real surplus merely because a smaller return in the future could be derived from the same coal by postponement of utilization.

The relation of mine rents to price has naturally been the subject of much confusion. Generally speaking, modern writers who have given attention to this subject have taken the position that royalties "enter into price" although the so-called rent of the mine does not. This position is maintained on the ground that the royalty is a capital fund which must be remunerated in order to induce the owner of the mine to employ it productively.

It is now generally recognized that the old idea that rent does not "enter into price" does not imply that rent may not be a determinant of relative prices. The question, then, of the relation of royalties and of rents amounts to this: are they forms of income which are disposable? If they were partly or entirely taken by taxation, would the supply of land be decreased?

In this sense a royalty may "enter into price" under certain conditions, and under other conditions it may not enter into price; but in no case is its relation to

price attributable to the fact that the royalty is capital which must be replaced. The entire pseudo-rent and nearly all the royalty might be taken without causing the mine to fall below the margin of utilization. For, since the royalty itself is a part of the total surplus, the owner would be foolish to abandon his mine so long as any surplus is obtainable. What will happen is that the *residuum* of the old royalty will be recapitalized and divided into a new royalty, and a new rent. The actual amount of each will be determined by the conditions of capitalization.

It does not follow, however, that a tax on the mine will in no way affect the supply of the product placed on the market in the present. Such a tax may disturb the relation between present and future. It has been shown that the tendency is for the rate of utilization to be so adjusted that the present value of the marginal uses in present and in future are just in balance. Much, therefore, will depend on the manner in which the tax is applied.

An annual tax on the value of the mine, provided the tax is expected to be permanent, will increase the tendency for the mine owner to remove the coal in the present rather than in the future. For, since the mine must pay the tax as long as it is operated, the tax may be evaded by increasing the rapidity of exhaustion. This will be true even if all of the so-called rent and a part of the royalty is taken by the tax. Far from preventing the mine from being utilized, it will actually increase the amount of coal placed on the market; and if demand is constant, will probably lower price.

On the other hand a tax upon the annual surplus from the operation of the mine, even if it is so heavy as to take more than the pseudo-rent, will not create an inducement for the mine owner to alter the adjust-

ment of utilization between present and future. If the rate of extraction is already adjusted upon the most profitable basis, nothing will be gained by postponing until the future, coal that will yield a greater net return in the present. For the tax can be avoided only to the extent that the surplus return is reduced, and the loss in surplus must always be greater than the saving in the tax. The effect of such a tax is to take a certain share of each dollar of surplus whenever it appears, whether in the present or future. The tax can only be evaded by losing that part of the dollar which remains. This is true on the assumption that the tax is regarded as permanent. Of course, in any case, if the tax is regarded as merely temporary, the tendency will be to transfer as much as possible of the process of production to the future.

In the case of a tonnage tax consisting of a fixed amount per ton, the balance of motive between present and future will probably be affected in such a way as to encourage a slower rate of utilization, and the postponement of a greater amount of coal for future extraction. If, previous to the levying of the tax, the marginal net return from coal to be extracted in the present is in equal balance with the present value of the marginal net return from future uses, the tax will reduce the net return of a given quantity of coal which is on the margin of utilization in the future less than it will reduce the net return in the present. This is true simply because the future tax is discounted. For instance, suppose that the marginal present use yields a net return per ton of one dollar while a competitive future use twenty years from the present will yield a net return of two dollars per ton, the present worth of which is one dollar (assuming a discount at five per cent). A tax of ten cents per ton will leave the net

returns of present and future ninety cents and one dollar ninety cents respectively. The present value of the future coal, however, is ninety-five cents instead of ninety cents, indicating the probability that a lower rate of utilization will be adopted.

The consideration of the incidence of taxes on mines makes clear the fact that the royalty is not a necessary part of supply price. The entire rent and part of the royalty may be taken without affecting supply provided it is done in such a manner that the relation between the net returns from present and future production are not disturbed.

It will now be apparent that of the two solutions which Ricardo applied to the problem, the idea that the rent of a mine or forest comprises the entire surplus above the expenses of production is the more nearly correct explanation. At the same time, Ricardo was not justified in extending his theory of rent to exhaustible natural agents without modification, especially when the rent-bearer is exhaustible and non-restorable. For the location of the internal margin of utilization is determined by the competition of present and future uses rather than by the coincidence between product and expense. Consequently the rate of interest exercises an important influence in determining the location of the internal margin. On the other hand, the price level of the product has substantially the same influence upon the rate of utilization as under the Ricardian assumptions. Moreover, there is no alteration in the method of determining the extensive margin; altho, when the comparison is between surfaces, the intensive margin does not coincide with the extensive margin.

These modifications do not necessarily nullify the conventional statement that rent is the difference between the product of a given amount of labor and

capital applied to good land in the most profitable way and the product of an equal amount of labor and capital applied to marginal land. It is only necessary to give a special interpretation, as above, to the phrase "*in the most profitable way.*" However, the traditional division of the net return from exhaustible natural resources into a rent and a royalty is justified only as a method of capitalization. The real economic rent of such resources comprises the entire net return from the rent-bearer, including the so-called royalty.

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HOME RULE IN TAXATION

SUMMARY

The problem stated, 490. — Equality in taxation, 492. — Relation to the general property tax as a state tax, 494. — Complete home rule with separation of sources, 495. — Home rule as a negative program, 499. — Tendency to excess in state expenditure, 502. — The case summarized, 503.

I. THE PROBLEM STATED

THE advisability of adopting so-called "home rule" in taxation cannot be definitely settled upon purely theoretical grounds. Unfortunately, there are few or no available data which may be used in supporting or condemning such a program. In discussing the problem theoretical statements are generally resorted to, and we are forced to adopt in the main the theoretical method. Practical considerations, if available, however, should receive careful attention when a new system of taxation or a change in the existing system is suggested.

Home rule is generally understood to consist in granting to cities, villages, and other minor units, local independence respecting properties to be taxed and to be exempted from taxation, assessment methods to be pursued, administrative devices to be followed, etc. The theory supporting this policy is that a locality is in a better position to choose its sources of revenue than is the state, and for much the same reasons that it is better able to determine the character and amount of its expenditures. The argument sounds reasonable and seems to accord with the movement toward home rule

in charter legislation and in the matters akin to it. The analogy between local independence in expenditure and in revenue matters, however, is not complete, and should be employed with caution.

It is a fundamental canon in taxation that all property of the same class should be taxed equally and uniformly. This does not mean, as has been so often held, that all property should be taxed at the same rate. In the very nature of the case such a view is untenable, since the income bearing capacity of properties frequently varies widely, and value for taxation is not always an accurate reflex of capitalized income. Likewise, the ratios of assessed to true value for different properties are usually not uniform. Moreover, the primary causes of values, except for certain properties, such as lands for building sites, do not arise locally. What shall be taken as the unit for the adoption of home rule is always an important consideration. Shall it be the county, the city, or the taxing district? The reasons for choosing a given unit respecting one kind of property may not be applicable respecting other types of property. For instance, it is evident that foremost among the causes giving rise to building site values are the presence of valuable contiguous property, density of population, railroad facilities, industrial opportunities, and the like. The same may be said for the value of buildings. These however, may be reproduced and their values, therefore, are largely determined by their costs. The appropriate home rule unit adopted for these properties, both for purposes of assessment and for distribution of revenue, may be the immediate locality; but for other forms of property the desirable unit may not be so easily determined.

The primary causes of the value of real estate mortgages, for instance, are not so clear. Complete isolation

of any district respecting the methods of taxing such properties is undesirable. It would hardly be maintained that community A should adopt a different tax policy for mortgages from that followed by community B. Surely, the mortgagee residing in district A, who has invested his wealth in real estate mortgages in district B, should not be exempt from taxation in district A, and it is likewise clear that the mortgagor in district B, ought not to be taxed — altho he is in many states — on the full value of his mortgaged property. The mortgagee is obligated to the district in which he resides. His property, however, is nothing more than a claim upon tangible wealth located in another district, but this does not cancel his tax obligation at his place of residence. A system which prevents tax districts from coöperating in assessing properties, the ownership of which is divided, or which forbids the state or other superior units from taxing such properties, and upon which each unit may have valid revenue claims, cannot be supported. If home rule in taxation involves complete divorcement of the state and localities, or of one locality from another, it cannot be defended.

2. EQUALITY IN TAXATION

Taxable property, whatever the source of its value, whether arising primarily from local expenditures, from individual initiative and resourcefulness, or from city growth, should contribute to the support of government. The obligation is more than local. This is as true for properties located in different taxing districts as it is for properties within a single district, unless benefit is taken as the sole measure of justice in taxation and is held to terminate with the boundaries of the immediate taxing jurisdiction. Obligation to pay

corresponds to ability to pay, and is co-extensive with the state in its broader sense. The maintenance of equality in taxation makes impossible, theoretically or practically, a *complete* divorcement of the state from the locality, either with respect to sources and amounts of revenue or objects and amounts of expenditure. Even where separation of sources, both as respects assessment methods and distribution of revenue, is carried furthest, as in California, a readjustment of rates on state-wide properties is required at frequent intervals, not primarily for the purpose of increasing revenue, but of imposing on the different public utility corporations, singled out for state taxation, rates equal to each other and equal to those paid by properties contributing to localities alone.

How equality of tax burden is to be maintained and at the same time home rule to be granted in an absolute and unconditional form is not clear. Partial home rule, applying to sources of revenue and methods of assessment, is possible, but not in a form which excludes the state and counties from levying taxes on such properties as seem expedient, either to make their revenues elastic or to insure uniformity of tax burdens between districts. Supervision of local assessments, even in cases where the state's sources of revenue are entirely distinct, is necessary to provide for equality in taxation as between properties locally taxed and those paying to the state alone. This is more conspicuously true in the states using the *ad valorem* system of taxation for state purposes; but it is equally true in states adopting other forms of special property taxes, such as those on gross or net receipts. The assessing expedient is adopted primarily to insure equality.

3. RELATION TO GENERAL PROPERTY TAX AS A STATE TAX

So long as a state gets its revenues from local sources in whole or in part, absolute home rule is impossible. Supervision of local assessments or wholly new assessments of local properties must be made for state purposes, and it is not clear what advantages would follow the discontinuation of central supervision even if it were possible. Where supervision is most complete, where coöperation between state and local assessing bodies is most highly developed, there assessments between counties are most nearly uniform, and property most completely listed. Where decentralization rules, where each local taxing agent is a law unto himself, inequalities as between districts are common and property is omitted from the roll. Uniformity and equality as between districts and within districts is desired in either case, — whether the state draws its revenues from local properties, or contents itself with taxing those which are state wide or are more than local in situs.

Could absolute home rule prevail so long as a state depends upon local properties for its revenues in part, if the state tax were apportioned on some basis — local income or expenditure, for instance — other than assessed value of property? Absolute divorcement of the superior and the inferior taxing jurisdiction, even under such circumstances, would not be possible, for the simple reason that supervision over accounting and reporting methods used by the localities would be necessary in order to check the accuracy of the reported incomes or expenditures. While there would not be the same ease of falsifying income or expenditure accounts as there would be of undervaluing property in order to escape state taxation, the motive for so doing would be

present, and the problems associated with the actual distribution be more difficult. Some of the problems which would require attention in order that uniformity among the local units might be realized are the following. (a) The methods of accounting used in determining income or expenditure. (b) The determination of what is "income" and what is "expenditure." Shall income from all sources, from taxes, licenses, municipal earnings, from special assessments, sale of bonds, all be counted; or shall only some of them, and if so, which ones? Or, to look at the expenditure side: shall expenditure for current purposes, for capital outlay, both for productive and unproductive purposes, for special assessments, all be included, or shall only some of them, and if so, which? (c) Many expenditures are made for objects which are local so far as situation is concerned, but the benefits of which are shared almost equally outside the immediate locality. Shall the full amount of such expenditure be counted, or only a portion? If the latter, upon what basis shall the distribution be made? Likewise, income made up from taxes, licenses, special assessments, privilege dues, may be paid locally, but does it all arise from local causes? What method of distribution shall maintain if income be chosen as the basis upon which state expenses are to be borne by local units?

4. COMPLETE HOME RULE WITH SEPARATION OF SOURCES

Not only are these more or less practical difficulties encountered in a program of complete divorcement of state control over local taxation, but in the very nature of the case others are involved. To take only two of many considerations: the security for local indebted-

ness and the protection of local borrowing powers. Municipal debt has been contracted with the taxing power as the main security. Borrowing power is based upon the assessed value of property, generally the property assessed for state and local purposes — and this includes large amounts which would be reserved to the state in case of separation of sources. Local units must continue to assess this property for interest payments and for the extinction of the principal of the debt accumulated. Moreover, it is evident that the borrowing power of a given locality under separation would be based upon less property than would be the case were none of it withdrawn for state purposes. This might or might not result in a hardship in a given case. Present creditors must at least be protected, and this has been done in California where separation has been effected.

Let us look for a moment at the solution of this problem as it has been worked out in California. Local units are allowed to tax the property of withdrawn corporations to pay their due proportion of interest and principal on outstanding debt, but the amount of the taxes so levied is deducted from the taxes paid by these corporations to the state. Realize what this means if home rule is required. Local assessments of these corporations will still have to be made, unless the state makes an *ad valorem* assessment of their properties in every indebted county, city, town and district. This would have been almost an impossibility, since there were at the time the law went into effect, some twenty-five indebted counties, one hundred and forty-five indebted cities and incorporated towns, and not less than five hundred indebted districts. The compromise effected is to allow the localities to make the assessments, but, as a check upon over-valuation of the

corporate properties, the state board is given authority to revise them. Moreover, since the corporations taxed locally for such purposes do not pay the taxes locally — these being deducted from the amount paid to the state — there is no inducement for them to protest because of high local assessments, all of which make it more necessary that the state should constantly supervise them.

This is the condition respecting municipal debt where separation covering both assessment and yield is adopted. Such an arrangement must endure for the protection of the present creditors. Further, this or some alternative arrangement must be provided in order that the credit of local units shall not suffer in the future. Some of the properties which formerly supported credit, under separation of sources, are withdrawn from local tax jurisdictions and their borrowing power is reduced by the amount of their assessed value. Local debt in the United States, except in certain parts of New England, is by constitutional provision based upon the assessed value of property. It is not enough to maintain that the withdrawal is offset by the exemption of local properties from state taxes, and that, therefore, no loss is occasioned. This may be true in reality, but it does not show itself in a form which compensates for a loss in assessed value. But, it is said, a solution of this difficulty is readily found in the possibility of increasing the assessed value of the properties remaining and in reducing the tax rate. Such a manipulation is possible, but probably unwise, since it opens the door to excessive expenditure. This is not equivalent to saying that the present constitutional debt limits are so rigid as to prompt such procedure, but it does suggest the new and wholly different problems of the relations of the tax burdens assumed by the tax-

payers in the form of yearly recurrent payments (taxes) and the same in the form of a fixed and semi-permanent charge (debt). Moreover, it raises the question of the need, in such a contingency, of a tax limit as protection against excessive expenditure.

This fact is patent: the personnel of the state's taxpayers is essentially the same as that of the taxpayers in the localities, irrespective of the tax base, — a fact forgotten in the attempt to draw a line of demarcation according to the single criterion of immediate tax incidence. In the former case "bond refunds" are necessary to protect present creditors, while in the latter case there must be an offset to decreased valuation, occasioned by removal of properties formerly taxed locally so as to protect future credit, or a tax limit so as to protect present taxpayers against exploitation.

Such is the case under separation of sources. How would it be under home rule without this feature, but with state taxes apportioned upon some other basis than assessed values? To the degree that home rule is involved in separation respecting assessment and yield, the same considerations apply. If for any reason the home rule contemplated includes the total exclusion of the state in local tax matters, the case against it is only emphasized and our conclusions given added weight. If the home rule contemplated means only local independence respecting taxation and exemption, and does not at the same time prohibit the county or the state from levying taxes locally on whatsoever sources they deem expedient, the case is relieved in part, but our conclusions remain as before. The arguments against total divorcement are supported by this added consideration.

5. HOME RULE A NEGATIVE PROGRAM

Home rule, if adopted, would permit of little more than the adoption of a negative program. Surrounded by certain restrictions, local units, particularly cities, might be allowed to exempt some properties from taxation. They could hardly be extended the privilege of adding many new sources of revenue to their list. Outside of the field of intangible personalty, so difficult of assessment everywhere, few changes could be made on the side of exemption. It is doubtful if improvements generally could with propriety be wholly exempted, since it is not entirely clear what positive advantages would follow, except perhaps in the very largest cities and in the most congested districts. The arguments for exemption of improvements on residence sites would not apply with the same force to improvements on factory sites; neither would the arguments supporting exemption to improvement in the case of non-productive properties (a house owned by the occupant) be the same as for properties used for productive (manufacturing, mercantile, etc.) business. It is understood that under home rule each locality would follow its own preferences in such matters, but it is affirmed that policies suitable to one unit or to properties within that unit would not necessarily be suitable to other units or to other properties. Liberties unduly extended in this connection cannot but make for dissimilarity and, finally, for inequality in taxation. And it is to be constantly held in mind that the obligation to support government does not terminate with immediate political boundary lines. Neither do all the forces which give rise to value function locally. Some of them show their influence particularly in restricted areas, but this fact ought not to exclude other and

superior jurisdictions from tapping the same sources of revenue, if public policy requires or financial needs dictate. The conclusion seems irresistible that undue decentralization leads to confusion and heterogeneity. This is the reverse of progress, clearly antagonistic to the trend of reform in tax matters. The value of tax commissions has been clearly demonstrated, and with the creation of each succeeding one, the degree of supervision over the *tax system* has been extended. This has been done with the realization that the function of government is unitary, that political divisions are separated for administrative purposes only, and that neither the incidence of taxation nor of expenditure can be definitely known, and that taxation and expenditure cannot be placed upon a scientific and equitable basis until coördination and systemization characterize the whole tax fabric.

Few significant positive changes can be made following the adoption of home rule. Beyond the single advantage most often claimed for it, that of offering cities the opportunity of levying relatively heavier taxes on land than on improvements, other important changes would be difficult. The removal of the motive to under-valuation, in case of the adoption of separation or of apportionment on a basis of expenditure of income, is claimed as a positive gain; yet it is not clear that in reality the avoidance of a state tax may be cited as the main cause, nor as an important contributing cause, for under-valuation when only 11.6 per cent of the general property taxes in the United States were levied (in 1907) for state purposes. If the burden of state taxes were removed and the motive to under-valuate, whatever its force, were no longer present, it is purely utopian to expect local assessment to be made on a full cash basis. Even under the most advantageous conditions,

as in Wisconsin, where an efficient tax commission has been operating for a number of years in the assessment of corporate property on an *ad valorem* basis, and where the results of local and of state assessments have consequently been thrown into close relation each year, and where direct supervision, even to the extent of re-assessment of local properties has been provided for and employed, assessed values are not on a full cash basis. If supervision were removed it is patent that, even in the absence of a state tax on local properties, the degree of under-valuation would rapidly increase.

But it is added there is no longer merit in full value assessment when state equalization is unnecessary. This assertion, tho often made, is far from tenable. Equality is possible only when full cash value is the basis of assessment. Such is the claim of all writers on tax topics and the universal judgment of tax assessors. "Experience has shown that an equitable assessment cannot be made at a percentage of cash value." Equalization is important whether it be by state or county; but it is to be remembered that no matter how efficient equalization may be, the real problem is in the distribution of the burden among the various taxpayers in each district. Equalization *per se* never gets any one on the tax roll. It is far from clear how the guaranty of universal assessment, even on real and tangible personal property, is to follow as by magic, as soon as the bonds binding the state to the locality, either as respects common sources of revenue or of supervision by the larger jurisdiction, are severed. Expert tax opinion and statistics of assessments respecting districts where decentralization maintains do not support the contention that full value assessment is the rule. Home rule would not furnish the motive for such an assessment.

Whether state taxes are apportioned locally on the basis of assessed value, or on the basis of income or expenditure, central supervision is necessary. If the purpose of home rule is wholly to relieve the local unit of state supervision, and at the same time to permit the state to get its revenue in whole or in part from local sources, it cannot be supported, for such an arrangement is as undesirable as it is impossible. Even segregating the state's sources does not allow of such total divorcement, since, by whatever method it chooses to tax its state-wide properties, it must, in order to tax them fairly with other property in the state, have some supervision over taxation in local jurisdictions. If, on the other hand, home rule is designed for the purpose of allowing local units to tax and to exempt properties as they deem expedient, it may be wise to adopt it for certain districts, but only then with the understanding that the way is left open for the superior units, in which the lesser ones are included, to tax properties within their jurisdictions, either to secure additional revenue, or to insure equality of tax burden between the various types of properties in the state. But such limited adoption is generally precluded by the arguments of those who support unconditional home rule, and it is particularly these with whom we take issue.

6. TENDENCY TO EXCESS IN STATE EXPENDITURE

The declaration that home rule tempts to excess in state expenditure is not capable of statistical demonstration. Yet it is undoubtedly true that the ease with which taxes are imposed upon corporate property, especially when it is the accepted opinion that certain types of corporations are not paying their fair share of the cost of government, and particularly when corpora-

tions as such are looked upon as legitimate objects from which the public may extract the uttermost farthing, have tended in part to explain the enormous increase in public expenditure. Irrespective of the legitimacy or the illegitimacy of such expenditure in the past, it seems certain, since all taxes by whomsoever paid come out of the available net income, that due caution must be taken not to divert unnecessarily the attention of the local taxpayers from the objects and purposes of state expenditures. It is clear beyond measure of doubt, that with total divorcement close scrutiny of state expenditures would not be the rule.

7. THE CASE SUMMARIZED

Recapitulating these considerations, it may be said that distinction should be made between absolute and partial home rule. The former is undesirable and impossible of general application; the advisability of the latter problematical. The appropriate political unit for the adoption of home rule is conditioned by the different properties assessed, and by the tax claims upon the owner of property, at his place of residence, and upon the property itself at its situs. For all property, the owners of which reside in different districts, coöperation in assessment is imperative and distribution of revenue necessary.

Taxation should constitute a system. The causes of property values are complex and over-lapping, the obligations to pay are not marked off by arbitrary political boundary lines, and the benefits from expenditure are not restricted to their local incidence. Neither the benefits from the activities of the state nor the causes of the values which give ability to pay can be blocked off into separate segments to be surrounded by

Chinese walls. Coördination and coöperation are always necessary to realize equality.

So long as a State collects its revenues in whole or in part from the general property tax, complete divorcement is impossible. This is as true when the state burden is distributed on an income or expenditure basis, as it is when distributed on an equalized value basis. The actual amount of the income received or expenditures made and the content of the same must be known in order that equality may maintain between districts. Indeed, the force of many of the reasons for complete and thoro-going supervision would be increased under such conditions. Separating the sources of state and local revenue does not alter the necessity of taxation being a system. The tax burden for supporting government — a unitary thing — should be borne equally whether separation exists or not. This question, it is shown, is complicated by the necessity of readjusting the security for local loans already issued and for protecting local credit for subsequent loans. Such an adjustment has been made in California, where separation is most nearly complete.

Home rule offers possibilities for the adoption of little more than a negative program. Exemptions may be applied to properties peculiarly difficult to assess, and heavier rates may be applied to other properties supposedly benefiting from local privileges, but this only with the danger of introducing heterogeneity as between districts, and of contributing to inequality within districts. The reasons for making exemptions are not of universal application, and the actual burdens of taxes are frequently different from those caused by their immediate incidence. Moreover, there is little reason to suppose that assessment difficulties in respect to the most tangible of property will be removed by relieving

one type of property from taxation and by breaking loose from the supervision of the state as a unifying and tax-coördinating force. Efficient supervision may be assigned as the most direct and potent cause for the approach to full value assessments of property in states which approach such a condition, and it would be clearly a step in the wrong direction to do anything to retard the well-defined movement toward central supervision. To advocate unconditional decentralization in tax matters, so far as to exclude central supervision, is tax heresy.

The fact of partial or complete separation of sources has undoubtedly been a potent contributing cause to excessive state expenditure, and home rule, involving a complete divorcement of state and local tax matters, would only add fuel to the fire. Whatever may be the need for increased expenditure, the only guaranty against waste is to insure an intimate interest in and control over it by those who have ultimately to pay the bills.

To summarize: home rule, even within narrow restrictions, may be supported as a tax policy only when it allows for close and intimate supervision of local tax matters by a competent and responsible centrally appointed administrative body at the same time that it grants to local units measures of tax autonomy.

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THE LITERATURE OF SCIENTIFIC MANAGEMENT

SUMMARY

Introduction, 506. — 1. Development and Theory of Scientific Management, 509. — Earlier discussion, 510. — The successive publications of F. W. Taylor, 511 ; — of Gantt, 514. — Essentials of Taylor's system, 518. — Various other publications, 521. — Emerson's books, 527. — 2. Scientific Management in Operation, 530. — 3. The Railroads, 533. — 4. Methods; general articles and books, 538. — Time study, 540. — Motion study, 541. — Other questions, 543. — 5. The Personal Factor, 547. — Bearing on larger social problems, 551. — 6. Relation to Organized Labor, 553.

ANY discussion of the literature of scientific management is confronted at the outset with the question, What is scientific management? The development of the factory system brought with it many new problems connected with the organization and management of labor, the structure and equipment of factories, and the technique of production. By successful manufacturers these problems have always been solved in a way to make manufacturing at a profit possible. Early solutions, however, were necessarily crude and roughshod. With the enormous increase in demand for manufactured products, in the investment of capital, and in the number of men engaged in the business, with the consequent development of ever-keener competition, the early methods have been found insufficient. Especially within the last twenty years a degree of skill and technical training has been brought to bear upon the solution of factory problems which has made modern factory management a thing much more elaborate, refined, and effective than ever before. A series of

improvements in administration and methods have been made by many engineers and managers, and not a few of them have been developed by a method which might truly be called scientific. Where, then, can we draw the line between modern management in general and what has come to be known technically as "scientific management" ?

Out of the mass of engineers and managers who are responsible for present-day methods, there has grown a group originating with Mr. Frederick W. Taylor of Philadelphia, who have perceived certain principles underlying the practices of management hitherto unrelated and uncoördinated. A collation of isolated successful experiments in various details of factory administration and methods has apparently shown a possibility of classification and generalization. Such classification and generalization are the basis for the development of a science, and the term "scientific management" is applied generally to the body of principles deduced from experience by Mr. Taylor, and the engineers associated with and trained by him, and to the methods by which the resultant principles are applied to industry. "Scientific management," therefore, is distinctively scientific, since it aims to correlate and systematize all the best of modern developments in factory administration, and to push development further in accordance with the principles discovered.¹

On the basis of this definition it is not difficult to select that portion of the large current literature of factory management which deals with scientific management from that other portion which describes and outlines the many unrelated improvements, methods,

¹ Mr. Charles B. Going has published an article, "The Efficiency Movement — an Outline," *Transactions, The Efficiency Society*, vol. 1, p. 11, showing the place of scientific management in the modern developments of factory organisation and pointing out the common element in many movements.

and principles which are continually being evolved. The literature of scientific management as such is that which has been published by those who approach the subject in a scientific manner. Of these Mr. Taylor is the acknowledged pioneer and leader both in practice and theory.¹

The literature of scientific management is found in a few books written by practitioners of the science, a few official reports growing out of disputes as to railroad rates and labor difficulties, technical articles which have appeared in the transactions of engineering societies and in engineering and other technical magazines, and a considerable mass of "popular" articles written to satisfy the recent widespread popular interest in the subject.

These books and articles may be classified, for the purposes of the present review, in six groups.

The first group includes those incidental to or dealing with the development and theory of scientific management as a whole. It consists of the original publications of the pioneers and such popular statements as reveal a clear grasp of the movement.²

The second group includes descriptions of scientific management in operation, written as a rule by managers of plants which have developed the system.

As a result of the injection of scientific management into the discussion of railroad rates, there has arisen a considerable body of literature on the possibility of the application of the system to railroads. This is of sufficient consequence to constitute the third class.

In the fourth class are the many detailed descriptions of methods which are either distinctive of scientific

¹ With the possible sporadic exception of Charles Babbage, whose book, *The Economy of Manufactures*, was published in 1832, fifty years ahead of its time.

² Many of the popular articles are evident pot-boilers, too ill-considered and ephemeral to be worthy of discussion and preservation.

management, or, tho not peculiar to scientific management, coördinated and assimilated by it into its own system.

Those methods of scientific management which affect most directly the human factor in production have stimulated a literature which is of sufficient importance to warrant being put into a fifth class by itself.

In the sixth and last group is the series of discussions dealing with the relation of scientific management to organized labor.

The more important books and articles are discussed briefly in the text. Others not sufficiently distinctive or noteworthy to call for special review, but important for students of the movement, are referred to in the notes. The text and notes together cover nearly ninety per cent of all that has been published on the subject in English.

1. DEVELOPMENT AND THEORY OF SCIENTIFIC MANAGEMENT AS A WHOLE

In 1832, Charles Babbage, the eminent mathematician, published a book ¹ in which he attempted to deduce from the practice of manufacturing as it existed in his time, the general underlying principles which apparently controlled it. This piece of work, tho crude in the light of modern advance, was so far ahead of the state of contemporary manufacturing intelligence that its significance was entirely overlooked, and it is only today that the force of his analysis is evident. Altho it does not appear that the modern group of scientific managers are in the slightest degree indebted to Babbage's work, it is interesting to observe in it the suggestion of the extension of specialization beyond manual labor to

¹ *The Economy of Manufactures.* London, 1832. (Out of print.)

mental labor, which is at the basis of the Taylor doctrines of functional foremanship and the separation of planning from execution. Babbage also foreshadows the use of timing as an aid in the development of processes; but in this he was not so fortunate, and the undeveloped method he used is not even remotely connected with modern time study.

The important stimulus to the modern development is found in the work of a group of managers and engineers, members of the American Society of Mechanical Engineers, who drew the attention of their fellow-members to the influence of wages on the output of workmen. The earliest of these was Mr. Henry R. Towne, president of the Yale & Towne Manufacturing Company. Mr. Towne has always been essentially a thinker in industry. Early in the '80s he wrote a paper¹ which was a plea for the technically trained engineer to concern himself in the financial and profit making aspects of management — to be an "economist" because he effects economies. As a result of taking his own advice in his own plant, and after a realization of the practical inefficiency of profit sharing as an incentive to production, Mr. Towne evolved² and described a modified type of profit sharing which he called "Gain Sharing." It consisted in modifying profit sharing by applying it to departments instead of to the business as a whole, and basing it upon demonstrable gains in the efficiency of departments as evidenced by careful accounting. Out of the discussion of this paper grew practically the entire modern literature on wage systems as incentives.

Prominent on this subject were the papers of Mr.

¹ "The Engineer as Economist," *Transactions, American Society of Mechanical Engineers*, vol. 7, p. 425. These transactions will be abbreviated hereafter *Trans. A. S. M. E.*

² "Gain Sharing," *Trans. A. S. M. E.*, vol. 10, p. 600.

F. A. Halsey and Mr. James Rowan ¹ and an article by Mr. Rowan.² The object in the mind of these managers was to provide a definite basis on which gains in efficiency could be measured, and to bring the gain and the consequent bonus home to the individual workman. It was an attempt to remedy the defects both of profit sharing with its indefiniteness and of piece rates with their temptation to cutting; and it amounts practically to the rough determination of a standard of individual performance and the announcement in advance of a systematically graded and expected cut.

While this discussion (the very considerable literature of which is outside the scope of this paper) was in progress, Mr. Frederick W. Taylor, an engineer of Philadelphia, who had become foreman and master-mechanic of the Midvale Steel Company, was trying to solve the problem of individual and plant efficiency by another and an essentially different method. One result of his experiments was the development of a new form of piece rate now known as the "differential piece rate," according to which a workman is paid a low rate per piece for ordinary production and a considerably higher rate for production according to a standard, determined by careful and accurate time study, and made possible of attainment by systematic training of the workman and by such management of the plant as facilitates to the utmost the operations performed by the laborer. Mr. Taylor's first statement of his methods and results was submitted to the American Society of Mechanical Engineers in a paper ³ which has

¹ "The Premium Plan of Paying for Labor," *Trans. A. S. M. E.*, vol. 12, p. 755. Reprinted in *Sibley Journal of Engineering*, vol. 16, p. 219, and in "Trade Unionism and Labor Problems," chap. xi, edited by John R. Commons. Boston, 1905.

² "A Premium System Applied to Engineering Workshops." *Proceedings, Institute of Mechanical Engineers*, March 20, 1903, p. 203.

³ "A Piece Rate System," *Trans. A. S. M. E.*, vol. 16, p. 856.

been described by Mr. Going, the accomplished editor of the *Engineering Magazine*, as "one of the most valuable contributions that have ever been made to technical literature."

At this stage of the development, the system consisted of "three principal elements: (1) an elementary rate fixing department, (2) differential rate system of piece work, (3) what he (Mr. Taylor) believes to be the best method of managing men who work by the day." The rate fixing department analyzes and standardizes work and piece rates with the aid of elementary time study. This procedure differs from that of other rate fixing departments "in that a careful study is made of the time required to do each of the many elementary operations into which the manufacturing of an establishment may be analyzed or divided. These elementary operations are then classified, recorded, and indexed and when a piece work price is wanted for work, the job is first divided into its elementary operations, the time required to do each elementary operation is found from the records, and the total time for the job is summed up from these data."

The differential rate system of piece work is defined briefly as "offering two different rates for the same job, a higher price per piece in case the work is finished in the shortest possible time and in perfect condition, and a low price if it takes a longer time to do the job, or if there are any imperfections in the work (the high rate should be such that the workman can earn more per day than is usually paid in similar establishments)." The best method of managing men who work by the day "consists of paying *men* and not *positions*. Each man's wages as far as possible are fixed according to the skill and energy with which he performs his work, and not according to the position which he fills. Every

endeavor is made to stimulate each man's personal ambition." The advantages of this system as deduced by Mr. Taylor from ten years' experience with the Midvale Steel Company are: first, lower cost of production with, at the same time, higher wages; second, by substituting knowledge for guess work, the elimination of the motive for "soldiering"; third, the substitution of exact knowledge leads to a treatment of the men with greater uniformity and justice, and their response with more and better work; fourth, coöperation of the men and the management is made obviously their common interest; fifth, the system is rapid in attaining the maximum productivity, which is automatically maintained by the differential rate; sixth, it selects and attracts the best men, develops many slow and inaccurate workmen into first class men, and discourages and sifts out men who are incurably lazy or inferior; seventh, "it promotes a most friendly feeling between the men and their employers, and so renders labor unions and strikes unnecessary."

The paper then proceeds to discuss the Towne and Halsey wage systems and profit sharing, and points out the absence in all of them of a definite measure of a day's work. It then describes the method of elementary rate fixing and the application of the differential piece rate by its means, with illustrations of the results attained.

It is significant of Mr. Taylor's habit of mind that this early paper is a description of methods and results, including hardly a suspicion of theoretical deduction. It is a testimony to the accuracy of Mr. Taylor's later statement that scientific management is not a theory to be applied to practice, but that it is first and primarily a practice out of which, many years after its beginning, a theory has developed.¹

¹ An interesting description of the application of this form of piece rate is found in "The Taylor Differential Piece Rate System," *The Engineering Magazine*, vol. 20, p.

The difficulty of bringing a plant to the necessary perfected degree of administration and the apparent severity of the differential piece rate led one of Mr. Taylor's collaborators, Mr. H. L. Gantt, to develop a different form of premium system, which retained, however, the essential element of an accurate time study basis. This method, known as the "Gantt bonus plan," is a time rate method. It guarantees the operator the regular hourly or daily rate but adds a bonus for achievement of the standard quantity and quality of work, known as "the task." This standard is set, as with Mr. Taylor's differential piece rate, by time study. Mr. Gantt has published a large number of articles on the subject, the best of which, together with his own development of the relation of scientific management to some of the human problems involved, have been collected in one volume.¹

Mr. Gantt points out how by the ordinary methods of management the cost of production, which is at the basis of the great problem of the increasing cost of living, follows a vicious circle of higher wages to meet higher cost and increased cost as the result of higher wages. The way out is to manage production in such a way that higher wages bring a decreased cost; and this is the aim of scientific management. This is accomplished by standardizing the conditions for efficient operation, instructing the workmen thoroly in the best methods, and using wages as an inducement to them to accept the instruction and the conditions provided. The development of the Gantt bonus and its relation

617, by Mr. Sanford E. Thompson, one of the early collaborators with Mr. Taylor and a recognised expert on time study. A good discussion of the whole matter grew out of a weak paper by Mr. F. Richards, "Is Anything the Matter with Piece Work?" *Trans. A. S. M. E.*, vol. 25, p. 68, participated in by Mr. Taylor, Mr. Emerson, and others.

¹ *Work, Wages and Profits*. New York, 1910. The first edition, published in 1910, is somewhat enlarged and considerably revised in the second edition, 1913.

to piece work are described in detail, and the effect of the system on the workman's habits of industry and coöperation is outlined and demonstrated with charts and diagrams showing comparisons between old methods and the new. These charts, based upon the records of actual workers, are extraordinarily interesting human documents, showing the gradual overcoming of difficulties and the fixation of habits of punctuality, reliability, and efficiency. The 1913 edition adds a chapter to the effect that, as the great natural resources of this country can be relied on less and less in competition with other countries, our future depends upon the application of scientific methods and the increase in the efficiency of operation, and concludes with a brief chapter illustrating some of the detailed methods of the Taylor System as developed by Mr. Gantt.

This book of Mr. Gantt's is one of the best that has appeared on the subject and is entitled to rank with Mr. Taylor's *Shop Management* and *The Principles of Scientific Management*, as one of the standard authorities.

Scientific management, however, is not merely a system of wage payment. One of its essential features is the determination and application of standards not only of performance, but of methods and equipment. In fact, it is a cardinal principle of scientific management that a proper standard of performance cannot be attained in the absence of standardized methods and equipment; and it was in the effort to secure standard performance that Mr. Taylor and his associates were led to investigations of detailed processes which have themselves become classics. One of the earliest of these is Mr. Taylor's "Notes on Belting,"¹ which, with the later paper by Mr. Carl G. Barth,² has had an immense

¹ Trans. A. S. M. E., vol. 15, p. 204.

² "Transmission of Power by Leather Belting," Trans. A. S. M. E., vol. 31, p. 39.

influence on the current manufacture and use of belts. Another investigation growing out of Mr. Taylor's work was concerned with the proper composition and method of heat treatment of tool steel, and the shape of cutting tools. This investigation, carried on with the assistance of Messrs. Gantt, Barth, and Maunsel White, and extending over twenty-six years, led incidentally to the discovery of high-speed steel, which has revolutionized machine shop practice and the design and construction of machine tools all over the world. The results of this investigation are published in a paper called "The Art of Cutting Metals."¹

While Mr. Taylor was carrying forward in a variety of industries the development of his distinctive type of management, but was publishing nothing about its details,² Captain Henry Metcalf had been developing independently and describing³ a system of routing and accounting in the government arsenals, and Mr. Oberlin Smith, president of the Ferracute Machine Company, had presented an interesting paper on the naming of machine parts.⁴ When the opportunity came Mr. Taylor helped himself freely to the suggestions in these papers and incorporated them, with considerable modification, into his practice.

¹ Trans. A. S. M. E., vol. 23, p. 31. An interesting explanation of one of the means by which Mr. Taylor's results are applied in machine shop practice is found in the paper by Mr. Carl G. Barth, the mathematician of the group, on "Slide Rules as Part of the Taylor System," Trans. A. S. M. E., vol. 25, p. 49. An illustration of the effect of such work as a stimulus to the application of thought to management appears in the article by Mr. Charles Day called "The Machine Shop Problem," *ibid.*, vol. 24, p. 1302, which emphasises the need of coördination, analysis, and a scientific determination of facts.

² The only paper by a member of the Taylor group dealing with any detail was Mr. Gantt's "Graphical Daily Balance in Manufactures," *ibid.*, vol. 24, p. 1322, which was a description of the method of scheduling introduced by him at the American Locomotive Works.

³ "The Shop Order System of Accounts," Trans. A. S. M. E., vol. 7, p. 440. *The Cost of Manufactures and the Administration of Workshops*, John Wiley & Sons, New York, 1885. 3d edition, 1907.

⁴ "The Naming of Machine Parts," Trans. A. S. M. E., vol. 2, p. 366.

Finally, after twenty years' experience, Mr. Taylor submitted to the American Society of Mechanical Engineers the history and methods of his system in what seemed to him to be definite, complete, and coördinated form. This was his famous paper on "Shop Management,"¹ which has been extensively reprinted and translated into French, German, Dutch, Italian, Russian, Lettish and Japanese. In response to the popular interest in the subject brought about by the railroad rate case in 1911, Mr. Taylor was induced to publish a less technical statement under the name *The Principles of Scientific Management*.²

"Shop Management" is a considerable expansion of the earlier paper on "A Piece Rate System," and includes much of the detailed methods that had been developed by Mr. Taylor in the intervening years, together with some analysis of the industrial and economic principles involved in his system. The emphasis is laid throughout on the importance of "the coupling of high wages for the workman with low labor cost for the employer," and the eventual interest of the public in the reduced prices resulting from this combination. The difference between the "first class man" and the average workman, the means for selecting or developing the former class, the methods of accurate scientific time study, the philosophy and operation of the task idea in management, the determination of standards, the separation of planning and execution, the development of functional foremanship and the planning department, and steps to be taken in changing from ordinary to "the best type of management," are dealt with extensively. Emphasis is laid on the "evils of soldiering" and the

¹ Trans. A. S. M. E., vol. 24, p. 1337. New edition. New York, 1911.

² Harper and Bros., New York, 1911. A very brief résumé by Mr. Taylor, "Principles and Methods of Scientific Management," is found in the *Journal of Accountancy*, vol. 12, pp. 117, 181.

failure of piece rates and premium plans to overcome them; it appears that Mr. Taylor's entire system grew out of his determination to break up this practice.

The objects sought can be attained, according to Mr. Taylor, most easily by the application of the following principles: —

(a) *A Large Daily Task.* — Each man in the establishment, high or low, should daily have a clearly defined task laid out before him. This task should not in the least degree be vague nor indefinite, but should be circumscribed carefully and completely, and should not be easy to accomplish.

(b) *Standard Conditions.* — Each man's task should call for a full day's work, and at the same time the workman should be given such standardized conditions and appliances as will enable him to accomplish his task with certainty.

(c) *High Pay for Success.* — He should be sure of large pay when he accomplishes his task.

(d) *Loss in Case of Failure.* — When he fails he should be sure that sooner or later he will be the loser by it.

When an establishment has reached an advanced state of organization, in many cases a fifth element should be added, namely: the task should be made so difficult that it can only be accomplished by a first class man.

The rest of the book is an amplification of the methods by which these so-called "principles" are applied.

The Principles of Scientific Management develops the same ideas in a slightly different way. Considerable emphasis is laid on the importance of the substitution of scientific knowledge and incentive on the part of the management for the old reliance on the crudely stimulated initiative of the workman. There is the same discussion of "soldiering," inadequacy of piece and premium systems, and a non-technical review of certain typical methods of the system, with illustrations of the application of scientific method to such diverse operations as shovelling, pig-iron handling, and the cutting of metals.

It is interesting to note in the later book a restatement of the "principles," otherwise referred to as "elements"; —

First. The development of a true science. *Second.* The scientific selection of the workman. *Third.* His scientific education and development. *Fourth.* Intimate friendly coöperation between the management and the men.

In an earlier section of the same book, these "principles" are restated in slightly different form as the "new duties" devolving on the management. In this case they are given as follows: —

First. They develop a science for each element of a man's work, which replaces the old rule-of-thumb method.

Second. They scientifically select and then train, teach, and develop the workman, whereas in the past he chose his own work and trained himself as best he could.

Third. They heartily coöperate with the men so as to insure all of the work being done in accordance with the principles of the science which has been developed.

Fourth. There is an almost equal division of the work and the responsibility between the management and the workmen. The management take over all work for which they are better fitted than the workmen, while in the past almost all of the work and the greater part of the responsibility were thrown upon the men.

It is evident from these statements that Mr. Taylor does not distinguish sharply between principles, duties, and methods, and it is difficult to see why the methods selected for elevation into the class of principles are limited to those given and do not include such fundamental and radical departures as functional foremanship and the task and bonus. This is but another evidence of the fact that the Taylor System is in reality the summation of years of the varied experience of many individuals, which has not even yet been thoroly coördinated and developed into such a system of real principles or laws as characterizes other modern sciences. I believe that the principles are there and that they only await definite and systematic formulation.

In the summer of 1911, the unionized machinists and molders employed at the Watertown Arsenal, where the Taylor System was being developed by Mr. Carl G. Barth, walked out; and on being taken back petitioned that the Labor Committee of Congress investigate the subject and recommend such legislation as would be necessary to protect their interests. A Committee was appointed consisting of Mr. William B. Wilson, the present Secretary of Labor, Mr. William C. Redfield, now Secretary of Commerce, and Mr. John Q. Tilson, "to investigate the Taylor and other systems of management" in government shops. The investigators confined themselves practically to the Taylor System, held hearings at the principal navy yards, and took testimony of workmen, foremen, managers, "efficiency experts," and practically the entire group of Taylor System engineers. The result of their investigation was a brief report that no legislation was necessary. More useful, however, was the publication of the great mass of testimony taken.¹ This report of the hearings is a perfect mine of information in regard to the history, methods, practice, and results of the Taylor System and must be strongly recommended as one of the fundamental sources on the subject.

Another important body of testimony is that introduced by Mr. Louis D. Brandeis as part of the case of the shippers in the "Eastern Rate Case"² which is carefully sifted, analyzed and coördinated in Mr. Brandeis' brief.³

¹ Hearings before the Special Committee of the House of Representatives to Investigate the Taylor and Other Systems of Shop Management. Washington, 1912.

² Interstate Commerce Commission Reports, vol. 20, p. 243.

³ A part of this brief was published under the title *Scientific Management and Railroads*, New York, 1912. The testimony in this case had no effect on the decision of the Interstate Commerce Commission; but the spectacular and seemingly extravagant form in which some of the testimony was given by persons outside the Taylor group but influenced by it, caught the popular fancy and was responsible for the great publicity the movement suddenly attained.

The most important publication of Mr. Taylor, in addition to those mentioned, is a book prepared by him and Mr. Sanford E. Thompson,¹ which includes, in addition to an acute analysis of concrete construction, certain chapters on time study and valuable tables of unit times determined in accordance with the Taylor methods.²

Altho the Taylor System has been applied to many types of industry other than machine shop production in which it originated, little has been published on these applications by those closest to the movement. Among the detailed discussions of other industries, however, must be mentioned the book by Mr. Charles Day,³ dealing with the construction and layout of factories. Mr. Day points out the influence of the design of the plant upon the efficiency of operation and details the work incident to the planning and building of the plant, from the selection of the site to the construction of buildings and the installation of equipment. Excellent illustrations are given of the best layout and routing of materials in factories of different types. Mr. Gantt has published a short paper dealing with the textile industry,⁴ and Mr. Day has pointed out the possibility of application to diverse industries including public service corporations.⁵

¹ *Concrete Costs*, John Wiley and Sons. New York, 1912.

² Two interesting articles by Mr. Taylor, "Why Manufacturers Dislike College Graduates," *Sibley Journal of Engineering*, vol. 24, p. 195, and "A Comparison of University and Industrial Methods," *Stevens Indicator*, vol. 24, p. 37, set forth his convictions in regard to the place of college graduates in manufacturing and particularly his criticisms of their point of view and the handicaps under which they labor and for which their college training is responsible. Chief among these are the inability to concentrate on an undertaking and bring it through to a conclusion, the failure to recognize the importance of punctuality and the value of time and discipline, and a lack of appreciation of the point of view of the workingman.

There is an interesting comment on this in Mr. D. C. Jackson's "Criticism of the Engineering Schools," *Stevens Indicator*, vol. 27, p. 25.

³ *Industrial Plants*. New York, 1911.

⁴ "The Mechanical Engineer and the Textile Industry," *Trans. A. S. M. E.*, vol. 32, p. 499.

⁵ "Management Principles and the Consulting Engineer," *The Engineering Magazine*, vol. 41, p. 133.

Growing out of the contributions of Mr. Taylor and his original group are a number of articles dealing with the theory of scientific management as it appears to those who first met it in its developed form. Among the most interesting of these are the Report of the Sub-Committee on Administration of the American Society of Mechanical Engineers.¹ This report, after pointing out the reasons for the present great popular interest in the subject, attempts to find the one basic principle in the movement, and discovers it in "the transference of skill." Just as the introduction of machinery meant "the transference of skill from the inventor or designer to the power-driven mechanism," so scientific management is the transference of skill from the manual worker to the planning department and functional foremen, resulting in the saving of labor and the increased output and reduction of cost. The report includes a collection of interesting attempts to state the underlying principles of scientific management.

Mr. Forrest E. Cardullo² has compared "conventional," "systematic," and "scientific" management, with illustrations of administration of the various types. Then follows a discussion of the causes of current inefficiency, which may be grouped into three classes: those which are chargeable primarily to the employer, those which are chargeable primarily to the workman, and those which are chargeable primarily to our political and industrial system. They include mental laziness, prejudice against so-called "non-productive" labor, timidity of capital, lack of foresight and adaptability, mental inertia, lack of study of industry, inefficient wage systems, and avarice, on the part of the management;

¹ "The Present State of the Art of Industrial Management," *Journal*, A. S. M. E. May, 1913, p. 871.

² "Industrial Administration and Scientific Management," *Machinery*, vol. 18, pp. 843, 931; vol. 19, p. 18.

and on the part of the workmen, disinclination to work at other than their accustomed pace, lack of ambition, mental laziness, and enmity to their employers; and on the part of the political and industrial system, periodical depressions, seasonal variations in work, intense individualism, wasteful competition, and sudden changes in laws, customs, fashions, and social conditions. The paper closes with an enumeration of the objections to scientific management and the answers to them and is, on the whole, one of the best contributions to the subject.

Lieut. G. J. Meyers ¹ has made an interesting attempt to deduce and formulate "laws" of management. He gives the following synopsis of laws: —

- Law I. — What to do.
- Law II. — Instructions before work starts.
- Law III. — Machines and tools.
- Law IV. — Workmen.
- Law V. — Insure instructions are carried out.
- Law VI. — Costs.
- Law VII. — Study for improvements.

Each statement begins: "It is necessary in any activity." Thus Law I is in this form: "It is necessary in any activity to have a complete knowledge of what is to be done and to prepare instructions as to what is to be done before the work is started," and so for each topic in the synopsis. The formulation of each law is followed by a brief statement of the reasons for it and the method of its application. The paper is a highly interesting essay in the formulation of industrial principles.²

¹ "The Science of Management," *Journal of the American Society of Naval Engineers*, vol. 23, p. 994.

² To these should be added the following: Mr. H. P. Kendall's "Management: Unsystematized, Systematized and Scientific," *Scientific Management*, Tuck School Conference, 1912, p. 112; reprinted in *Industrial Engineering*, vol. 10, p. 374, a comparison of the types of management mentioned, based on the writer's personal experience.

The present writer¹ has pointed out that the time study methods of the Taylor System provide a definite basis for one side of the wage bargain: to wit, the content of a day's work, but makes no attempt to determine the equivalent day's wage, except to provide a means through the bonus or differential rate for the application of the principle that superior service should be paid at a superior rate.

M. LeChatelier's Introduction to the French translation of *The Principles of Scientific Management* discusses the fear both on the part of the employers and the workmen, that the radically new methods of scientific management will bring about critical economic problems of readjustment; and lays this fear to ignorance of the gradual working out of economic changes.

Mr. Morris L. Cooke, now director of Public Works in the City of Philadelphia, and one of the later additions to the original Taylor group, was retained by the Carnegie Foundation to make an investigation of academic efficiency from the point of view of an industrial administrator.² Mr. Cooke discusses current types of university organization, the college teacher as a producer, research, the economical use of buildings, functional activities, financial administration, and student administration. According to him, there is no present gauge to efficiency in academic work and, while recognizing that the product of the university is of so

with the last two and a wide acquaintance with the first. Mr. Tracy Lyon's brief review of principles in "Scientific Industrial Operation," in "Technology and Industrial Efficiency," p. 200, New York, 1911. Reprinted in *Iron Age*, vol. 87, p. 922, and in *Industrial World*, vol. 45, p. 464. Mr. A. Hamilton Church's "The Meaning of Scientific Management," *Engineering Magazine*, vol. 41, p. 97, which is one of numerous suggestive but unsuccessful attempts to find "the one" principle underlying the movement. Finally, the editorial, "Scientific Management More Than a Labor Problem," *Industrial Engineering*, vol. 11, p. 467, pointing out the inclusiveness of the method.

¹ C. B. Thompson, "Relation of Scientific Management to the Wage Problem," *Journal of Political Economy*, vol. 21, p. 630.

² "Academic and Industrial Efficiency," *Carnegie Foundation Bulletin No. 5*. 1910.

intangible a nature as not to be subject to exact measurement, he points out the possibility of the application of a unit, the student-hour, to the measurement of administrative efficiency. His discussion is brought to bear in detail upon the administration of a physics department and includes an application of some of the methods of industrial administration.¹

Interesting suggestions for the partial or complete application of the Taylor System to varied industries are made by Mr. F. B. Gilbreth² when he shows the revolutionary result of the application of motion study to a trade so ancient as laying bricks, and by Mr. B. M. Ferguson³ who details the favorable results of his experiments, particularly in its application to outdoor construction.

The success of the application of the Taylor System to the government arsenals drew the attention of engineers in the Navy to the possibility of its application to their branch of the service. This is discussed by Mr. C. S. Brewer⁴ and by Lieut.-Commander W. B. Tardy.⁵ Particularly interesting is the Report of the Civilian Expert Board⁶ on Industrial Management of United States Navy Yards. This Board, appointed by the Secretary of the Navy and consisting of Messrs. H. L.

¹ The following articles may be taken as samples of the comment provoked by this study: "Educational and Industrial Efficiency," *Science*, n. s., vol. 33, p. 101 by Richard C. MacLaurin, President of the Massachusetts Institute of Technology, who is apprehensive that the methods proposed by Mr. Cooke will consume too much of the time of officers of instruction and will tend to distract attention from the fundamental purpose of a university; "Educational or Administrative Efficiency," *Engineering Magazine*, vol. 40, p. 606 (anonymous); and "Scientific Management and Academic Efficiency," *The Nation*, vol. 93, p. 416 by Professor A. G. Webster.

² *Bricklaying System*. New York and Chicago, 1909.

³ "The Application of the Taylor System to Gas Works," *American Gas Light Journal*, vol. 95, p. 225, and *Progressive Age*, vol. 29, p. 830.

⁴ "Scientific Management in the Army and Navy," *World's Work*, vol. 23, p. 311.

⁵ "A Plea for a Standard Organization of the Engineer Division Aboard Ship," etc., *Journal of the American Society of Naval Engineers*, vol. 23, p. 681.

⁶ Prepared by direction of Hon. George von L. Meyer, Secretary of the Navy. Washington, 1912.

Gantt, Harrington Emerson, and Charles Day, investigated the present functions and conditions of navy yards. They discussed the efficiency of their management in comparison with that of industrial plants and made certain recommendations in regard to the nature of the work properly to be performed in navy yards and "that scientific management be introduced and perpetuated in the navy yards which it is decided to operate."

The most ambitious attempt to apply the Taylor principles to selling has been made by Mr. Charles W. Hoyt.¹ He describes such modern methods as training classes, salesmen's conventions, standardized talks, and outlines rather inadequately the application of the scientific method of approach to the problems of salesmanship.²

The growing realization that perhaps the greatest economic waste from which we suffer is due to the inefficient management of household economy has resulted in some thought being given to the working of the Taylor principles in domestic management. The most suggestive article on this subject is that by Mr. J. B. Guernsey,³ which, however, is rather too vague and theoretical to be of practical service.

It is not strange that the best known and most popular books on the principles of scientific management are not those written by its originator and his co-workers; they are the product of persons who have been influenced by them and whose gift of expression is more highly developed. Foremost among these are two

¹ *Scientific Sales Management*. New Haven, 1913.

² Other articles dealing briefly with this subject are Mr. Amasa Walker's "Scientific Management Applied to Commercial Enterprises," *Journal of Political Economy*, vol. 21, p. 388, and Mr. J. George Frederiek's "Applying the Science of Management to Selling," *Industrial Engineering*, vol. 12, p. 204.

³ "Scientific Management in the Home," *Outlook*, vol. 100, p. 821.

books by Mr. Harrington Emerson,¹ marked by a breadth of interesting information, and a capacity for inspiring, almost poetic, elucidation, which have made them the most popular expositions of the subject.²

Mr. Emerson discusses certain typical inefficiencies and their significance, the causes of national industrial prosperity, the strength and weakness of existing systems of organization. He then proceeds to an exposition of his own method of line and staff organization, the determination and realization of standards, cost accounting, the location and elimination of wastes, and the Emerson bonus system. His method differs from that of Mr. Taylor in two respects: in the first place, in the line and staff organization, the staff consisting of the experts occupies an auxiliary and advisory relation to the management, whereas in the Taylor System, the experts are the functional foremen and are an integral executive part of the organization; in the second place, the Emerson bonus proceeds on the rough determination of a standard efficiency which he calls 100%; the workman who attains 67% or less gets his guaranteed day wages, and is paid a bonus on a sliding scale for every increase in the percentage of efficiency; at 100% the bonus amounts to 20% of his wages and 1% is added for each additional 1% of efficiency. As the task is not originally so accurately and thoroly set as in the Taylor System, the workman can, and frequently does, exceed the 100% mark.

Mr. Emerson states the principles of management as follows: (1) clearly defined ideals; (2) common sense; (3) competent counsel; (4) discipline; (5) the fair deal; (6) reliable, immediate, and adequate records;

¹ *Efficiency*, New York, 1910, and *The Twelve Principles of Efficiency*, 1912.

² Two other simplified expositions worth mentioning are the *Primer of Scientific Management*, New York, 1912, by Mr. F. B. Gilbreth, and the misnamed "*Psychology of Management*," *Industrial Engineering*, vol. 11, pp. 343, 429; vol. 12, pp. 13, 65, 116, 155, 199, 248; vol. 13, pp. 18, 66, 113, 161, 213, by Mrs. L. M. Gilbreth."

(7) despatching; (8) standards and schedules; (9) standardized conditions; (10) standardized operations; (11) written standard-practice instructions; (12) efficiency reward. Most of these are not by any means peculiar to scientific management, nor can it be said that Mr. Emerson's application of them is distinctively original. Incidentally it is interesting to note the gradual change from Mr. Emerson's acknowledgment of indebtedness to Mr. Taylor in certain discussions in the American Society of Mechanical Engineers to the reversal of this position in his later published work.

Out of the large number of books written within the last five years on the general subject of factory administration, four of the most important devote attention to a discussion of scientific management and show in general considerable influence by it. The most noteworthy of these are by Mr. Charles B. Going¹ and Mr. Dexter Kimball,²—these two are especially valuable for the setting they give scientific management in the development of modern administrative methods; Messrs. Galloway, Hotchkiss and Mavor;³ and Mr. Hugo Diemer.⁴

It is natural that such a radical and far-reaching movement as scientific management should meet criticism. It has in fact been a veritable storm-centre. Much of the criticism is aimed at details and will be discussed later; but the following articles go for the system root and branch and should properly be enumerated here. The most comprehensive criticism is that by Admiral John R. Edwards,⁵ who sums up the comments of most of the adverse writers, and adds on his

¹ *Principles of Industrial Engineering*. New York, 1911.

² *Principles of Industrial Organisation*. New York, 1913.

³ *Business Organisation*. New York, 1912.

⁴ *Factory Organisation and Administration*. New York, 1910.

⁵ "The Fetishism of Scientific Management," *Journal of American Society of Naval Engineers*, vol. 24, p. 355.

own account that scientific management does not cover the whole of management, and that in any case management is an art rather than a science, that the Taylor System antagonizes the workmen and neglects the personal equation, and that whatever advantages have come from it have been incidental by-products. Another severe criticism is that by Mr. A. Hamilton Church,¹ who attacks particularly certain extracts from Mr. Taylor's writings, leading to the conclusion that Mr. Taylor does not show a science.² Mr. Church and Mr. L. P. Alford³ undertook to enumerate the principles of management and pointed out the place of the Taylor System in them.⁴

As already stated, most of the popular articles on the subject are obviously journalistic and ephemeral. The most spectacular discoveries of Mr. Taylor and his co-workers lend themselves easily to "popular" treatment; and the possible results of the application of the stop-watch and the micrometer appeal effectively to the imagination of magazine and newspaper writers. Most of their work contains nothing new or significant. The few popular articles of real value are listed below.⁵

¹ "Has Scientific Management Science?" *American Machinist*, vol. 35, p. 108.

² The same point is made in an editorial called "The Science of Management Defined, and the Scope of this Science," *Engineering and Contracting*, vol. 39, p. 339.

³ "The Principles of Management," *American Machinist*, vol. 36, p. 857. Reviewed by Mr. D. S. Kimball and Mr. J. Calder, *ibid.*, p. 965.

⁴ Other important general criticisms are those by Mr. Dexter S. Kimball, "Another Side of Efficiency Engineering," *American Machinist*, vol. 35, p. 263, developing briefly some of the social and economic implications of the movement and calling attention to the absence of a discussion of distribution; by Mr. H. G. Bradlee, "A Consideration of Certain Limitations of Scientific Efficiency," in "Technology and Industrial Efficiency," p. 190, New York, 1911; reprinted in *Stone & Webster's Public Service Journal*, vol. 8, p. 323, pointing out that for the most effective application conditions must be uniform, work repetitive and the area of operations small; by Mr. E. C. Peck, "Systematic versus Scientific Management," *Iron Age*, vol. 88, p. 364, drawing attention to the scarcity of real experts and the dangers of inept work; and by Mr. James R. Johnson, "A Manager's View of the Taylor System," *American Machinist*, vol. 34, p. 885, presenting the point of view of the typical successful manager, that we should let well enough alone.

⁵ The following contain good enough ideas, well enough expressed, to warrant listing and recommending them: Mr. A. G. Popke's "The Relations of Capital, Labor and

2. SCIENTIFIC MANAGEMENT IN OPERATION

As yet nothing has been published summarizing the results of the application of scientific management in any large proportion of the plants which are using it. The nearest approach to a review of its present status is in the Report of the Sub-Committee on Administration of the American Society of Mechanical Engineers, referred to above. It is significant that one of the signers and, I believe, the actual writer of this report is Mr. L. P. Alford, mentioned above as one of the critics of the movement. Mr. Alford has written another excellent article,¹ based on the experience of a well-known Philadelphia company. Mr. A. W. Shaw, editor of the magazine *System*, gives a good brief review,² describing the work of the system at the Tabor Manufacturing Company in Philadelphia, and suggesting the method of its application to business problems in general and the results that might reasonably be expected from it. The experience of the Link Belt Company of Philadelphia is described by Mr. James M. Dodge, its president,³ and a complete and detailed

Efficiency in Manufacturing," *Engineering Magazine*, vol. 43, p. 857, pointing out the necessity of increasing efficiency; Mr. E. Perry's "The Outsider and the Busy Business Man," *ibid.*, vol. 40, p. 249, answering the old saw that improvement should come from the inside and not from the outside expert; a series of articles by Mr. E. M. Wooley. — "The One Best Way," *System*, vol. 20, pp. 237, 356, 460, 614; "Scientific Management in the Office," *ibid.*, vol. 21, p. 3; "Getting Out the Mail," *ibid.*, vol. 21, p. 284; "The Wanton Waste of Labor," *ibid.*, vol. 21, pp. 13, 173, "Lost Motions in Retail Selling," *ibid.*, vol. 21, pp. 366, 465, — well written and suggestive; Mr. H. S. Philbrick's "Scientific Management," *World To-day*, vol. 21, p. 1167, developing the idea that scientific management is a resumption of the direct oversight over production which had gradually vanished; an anonymous article, "What is Scientific Management, and What Does it Do?" *Industrial Engineering*, vol. 9, p. 1; an article, also anonymous, on "Efficiency Program," *Independent*, vol. 70, p. 739; an anonymous article entitled "Aspects of Scientific Management," *The Nation*, vol. 92, p. 464; and an excellent article by Mr. F. B. Copley, "How it Works: What Manufacturers and Workmen are Getting out of Scientific Management," *American Magazine*, vol. 75, p. 11, summarizing the results of an extensive investigation and approved personally by Mr. Taylor.

¹ "Scientific Management in Use," *American Machinist*, vol. 36, p. 548.

² "Scientific Management in Business," *Review of Reviews*, vol. 43, p. 327.

³ "A History of the Introduction of a System of Shop Management," *Trans. A. S. M. E.*, vol. 27, p. 720.

explanation of the operation of the Taylor System in that plant is given by Lieut. Frank W. Sterling.¹ The experience of the same plant is the basis of an article by Mr. C. W. Adams, its superintendent.² The same methods, as worked out by the Midvale Steel Company, are described by Mr. H. L. Arnold.³ An excellent description of the early application of the System at the Bethlehem Steel Works is published by Mr. H. L. Gantt,⁴ and the story of its introduction and results at the Tabor Manufacturing Company is told by Mr. Wilfred Lewis, the president of the company.⁵ The methods described in Mr. H. P. Kendall's paper⁶ are in the main those of the large printing and binding establishment of which he is the general manager. Mr. Carl G. Barth gives an interesting anecdotal account.⁷ Lieut.-Commanders W. B. Tardy⁸ and A. M. Cook⁹ give the results of the application of the principles of the system to gunnery practice and to the administration of a navy yard. The same subject is also dealt with by Mr. Holden A. Evans in a series of articles.¹⁰

¹ "The Successful Operation of a System of Scientific Management," *Journal of American Society of Naval Engineers*, vol. 24, p. 167.

² "The Differential Piece Rate," *American Machinist*, vol. 34, p. 18.

³ "Pre-eminent Success of the Differential Piece Rate System," *Engineering Magazine*, vol. 12, p. 831.

⁴ "A Practical Application of Scientific Management," *Engineering Magazine*, vol. 41, p. 1.

⁵ "An Object Lesson in Efficiency," in "Technology and Industrial Efficiency," p. 173. New York, 1911.

⁶ "Management: Unsystematised, Systematised, and Scientific," *Scientific Management*, Tuck School Conference, 1912, p. 112. Abstract in *Industrial Engineering*, vol. 10, p. 374.

⁷ "Betterment of Machine-Tool Operation by Scientific Metal Cutting," *Engineering Magazine*, vol. 42, p. 586.

⁸ "Scientific Management and Efficiency in the United States Navy," *Engineering Magazine*, vol. 41, p. 545. *American Review of Reviews*, vol. 44, p. 229.

⁹ "Scientific Management Methods at a Naval Magazine," *Engineering Magazine*, vol. 42, p. 75.

¹⁰ "Reduction in Cost of Navy Yard Work," *American Machinist*, vol. 33, p. 1200; "General Instruction for Machine-Shop Methods," *ibid.*, vol. 31, p. 610; "Detailed Instruction for Machine-Shop Methods," *ibid.*, p. 645; "Do Taylor's Methods In-

Two extended and complete accounts are those by Mr. Charles B. Going and by General William Crozier. Mr. Going's article ¹ describes the results achieved by Mr. Emerson in the application of his form of scientific management to the Santa Fe Railroad, and presents the conclusions of a disinterested spectator removed from the stress of the conflict between the railroad managers and their critics. It will be discussed in more detail in the next section. The reports by General Crozier on the application of the Taylor System to government arsenals ² are exceptional in that they give detailed costs and comparisons to an extent not considered practicable by the managers of private concerns. The 1911 report gives an excellent brief résumé of the introduction of the system in the Watertown Arsenal, and a rather full demonstration of the statement that "the practical effect of these methods at the Watertown Arsenal has been a material reduction in the cost of general manufacture at that place," and describes the beginning of the trouble at that Arsenal with the molders and machinists. The 1912 report pursues the same subject and quotes comparisons of the cost of production at Watertown and other Arsenals where the system had begun to be installed with bids on the same items from outside concerns. The appendix to the 1913 report gives the recent petition of the Watertown employees for the abolition of the Taylor System, and the extended and conclusive reply of General Crozier.

crease Production ?" *ibid.*, vol. 34, p. 1133; "Output under Scientific Management," *ibid.*, p. 1202.

The application to an automobile repair shop of the modification of the Taylor System used by Mr. Emerson and his disciples is described by Mr. A. Flack in "Machine-Shop Experience with the Principle of Efficiency Reward," *Engineering Magazine*, vol. 41, p. 641.

¹ "The Methods of the Santa Fe," *Engineering Magazine*, vol. 36, p. 909; vol. 37, pp. 9, 235, 337, 541.

² Reports of the Chief of Ordnance for 1911, 1912, and 1913. Washington.

3. SCIENTIFIC MANAGEMENT AND THE RAILROADS

In the Eastern Rate Case, the application of the railroads to the Interstate Commerce Commission for permission to raise freight rates was met by the shippers, under the advice of Mr. Louis D. Brandeis, with the counter-argument that, instead of raising the rates to spend more money, they should make their operation efficient to get more out of their present expenditure. In the course of the hearings, the following testimony was introduced: —

Mr. Brandeis. You have been quoted, Mr. Emerson, as stating that in your opinion, by the introduction of proper efficiency system of scientific management, the railroads of the United States could effect an economy of perhaps \$300,000,000 a year, or not less than \$1,000,000 a day.

Mr. Emerson. That is correct — that is, I have been quoted as having stated that.

Mr. Brandeis. Is it your opinion that that is the fact?

Mr. Emerson. At least that.¹

Altho, as stated above, the decision of the Commission was not affected by this testimony, the publicity it received stirred up an intense discussion, much of which on the part of the railroads showed signs of the spirit of the man who has been stung.

The best summary of the testimony bearing on this subject is by Mr. Louis D. Brandeis,² who has analyzed the meaning, the requirements, and the effects of scientific management, and who groups the evidence of the witnesses in accordance with the analysis. In an

¹ Brief on Behalf of Traffic Committee of Commercial Organizations of the Atlantic Seaboard, before the Interstate Commerce Commission, *re* Investigation of Proposed Advances in Freight Rates by Carriers in Official Classification Territory, p. 92.

² *Scientific Management and Railroads*. New York, 1911. Ably reviewed by Mr. Edward D. Jones in the *American Economic Review*, vol. 1, p. 833.

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earlier article¹ Mr. Harrington Emerson had pointed out that, in his opinion, the railroads could save \$300,000,000 a year, and his articles² suggest the method by which he approaches this conclusion. Mr. Emerson had been retained by the Santa Fe to develop his form of scientific management in part of their work and the results are described by Mr. Charles B. Going,³ who outlines the problems of the road and describes Mr. Emerson's treatment of the stores keeping, shop order and works order systems, maintenance of motive power, the bonus system, the apprentice system, and relations with the employees. The bonus system is further described by Mr. Fred H. Colvin, editor of *The American Machinist*.⁴

Severe criticism of Mr. Emerson and his methods was made by Mr. Wilson E. Symons.⁵ Mr. Symons attacks Mr. Emerson's statistics, shows the impossibility, in his opinion, of a million dollar a day saving, denies that Mr. Emerson's work on the Santa Fe was of any value, and gives examples of what he considers real railroad

¹ "Preventable Wastes and Losses on Railroads," *Railway Age Gazette*, vol. 45, p. 12.

² "How Railroad Efficiency Can be Measured," *Engineering Magazine*, vol. 42, p. 10; and "The Methods of Exact Measurement Applied to Individual and Shop Efficiency at the Topeka Shops of the Santa Fe," *American Engineer and Railroad Journal*, vol. 81, p. 221. Mr. Emerson's work in the Santa Fe work-shops is praised by Mr. W. J. Cunningham in the discussion of Mr. Taylor's address on scientific management before the New England Railroad Club (Oct. 10, 1911).

³ "Methods of the Santa Fe," *Engineering Magazine*, vol. 36, p. 909; vol. 37, pp. 9, 225, 337, 541.

⁴ "How Bonus Works on the Santa Fe," *American Machinist*, vol. 36, pp. 7, 165. See also two articles by Mr. Charles H. Fry, associate editor of the *Railway Age Gazette*, in the *Railway Age Gazette*, vol. 41, pp. 476, 504, followed by an editorial on the same subject, vol. 45, p. 413. Mr. Fry outlines the organization of the work on that road and illustrates with charts and statistics the results attained, particularly in machine-shops.

It is generally understood that the influence of Mr. Emerson pervades the book of Mr. H. W. Jacobs, *Betterment Briefs*, New York, 1909. 2d ed., dealing with Santa Fe machine shop improvements, reviewed in the *Railway Age Gazette*, vol. 47, p. 1192.

⁵ "The Practical Application of Scientific Management to Railway Operation," *Journal of the Franklin Institute*, vol. 173, pp. 1, 140, 271, 365. See also his reply to an editorial criticism of his own paper in the *Railway Age Gazette*, vol. 51, p. 1107.

efficiency. Whatever may be the worth of Mr. Symons' statistics, it is evident to any one acquainted with scientific management that he knows practically nothing of the latter subject, and the paper is valuable mainly by reason of the discussion participated in by many well-known railroad men.¹

The bitterness of the reaction by some railroad men is illustrated in a series of anonymous articles,² with such titles as "Extravagant Claims," "Impractical Theories," "Neglect of Human Element," "Unscientific Method and Impatience for Results," and "Neglect of Large Factors," which criticize severely some of the practices the writer had apparently met with. It is unfortunate that no means of identification are given, and there is apparently some point to the comment in the letter by Mr. F. L. Hutchins³ to the effect that the writer of the articles was mistaken in his classification of "efficiency men." The articles are well worth reading, however, as they appear to describe accurately the kind of things done by the many ill-prepared and inexperienced practitioners of "efficiency."

The objection to scientific management on the railroads on the ground that interference of the labor unions makes it impossible, is voiced by Mr. J. O. Fagan⁴

¹ In the same Journal appeared a defence of Mr. Emerson by Mr. C. J. Morrison, "Letter on Scientific Management," *Railway Age Gazette*, vol. 50, p. 214, and a fair criticism with acknowledgment of variation of the Emerson and the Taylor methods in an anonymous article on "What is Scientific Management?" *Ibid.*, vol. 50, p. 839. Two good editorials on the subject are contained in *The Railway Age Gazette*: one of which, vol. 50, p. 18, holds that "the basic principles underlying scientific management are correct," and the other, vol. 50, p. 210, that "the value and effectiveness of scientific time study cannot be questioned." Some justification of Mr. Emerson's criticism of the efficiency of the railroads may be found in an article by Mr. L. C. Fritch, a well recognized railroad expert, on "Opportunities for Economy on Railways," *ibid.*, vol. 51, p. 1059.

² "The Mistakes of the Efficiency Men," *Railway Age Gazette*, vol. 50, pp. 29, 230, 391, 849, 1059.

³ *Railway Age Gazette*, vol. 50, p. 268.

⁴ "The Dream of Scientific Management on Railroads," *Journal of Accountancy*, vol. 12, p. 1.

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who reiterates his point that the difficulty with the railroads is the employees.¹

Other fundamental objections to the application of scientific management to railroads are discussed by Professor W. J. Cunningham.² After stating the principles of the Taylor System, he discusses the testimony of Mr. Emerson and points out the vagueness of the methods proposed by him. He criticizes severely Mr. Emerson's statistics and particularly the method by which he arrives at the one million dollar a day saving. Acknowledging the success of scientific management in commercial undertakings, he points out four essential differences between manufacturing establishments and railroads: (1) area and extent of activity; (2) nature of product and output; (3) relations with the public and the government; and (4) relations with labor unions, — any one of which, in his opinion, makes an application of the system to railroads impracticable. He then shows that the railroads have in fact for some time been applying scientific management of their own kind, and that the remedy for their administrative difficulties lies in a further application of the same methods by better and more efficient men.

Another railroad man, Mr. C. deL. Hine, in a stimulating and suggestive book,³ develops the thesis that specialization has already been carried too far on the railroads and that what they need is decentralization

¹ See also the discussion between him and Mr. E. H. Abbott in "Humpty Dumpty's Question, and its Answer," *Outlook*, vol. 97, p. 543. The subject is also dealt with in an anonymous article in the *Iron Age*, "Railroad Efficiency and the Labor Unions," Feb. 23, 1911; and the responsibility for the problem is traced in an anonymous article, "Genesis of Railway Brotherhoods," *Railway Age Gazette*, vol. 50, p. 782; the point is also mentioned by Mr. W. D. Hines in "Scientific Management for Railways," *Nation*, vol. 91, p. 576.

² "Scientific Management in the Operation of Railroads," *Quarterly Journal of Economics*, vol. 26, p. 539.

³ *Modern Organisation*. New York, 1912.

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rather than the increased centralization characteristic of scientific management.¹

One of the principal arguments of the railroads was that, so far as scientific management was applicable to railroading, it was already being applied, as was pointed out in Mr. Cunningham's article already referred to. An attentive study of the examples given by the railroad writers, however, shows that in the main they have mistaken isolated applications of scientific methods for the systematized organization of administration, which is meant by "scientific management."²

In the meantime, practical heed is being given to the possibility of making some form of application of the new system to railroading. For obvious reasons little is being published on this point, and any reference to the fact that the methods are those of Mr. Taylor or Mr. Emerson is carefully avoided.³

The fact seems to be, as expressed⁴ by Mr. C. C. Leech, that "the efficiency men simply got in wrong" and that when personalities came to be forgotten, the railroad managers were as alive as any one to the possibilities of improvement.⁵ As evidence of the truth of

¹ Attention should also be called to two editorials in the *Railway Age Gazette*, vol. 50, p. 265 and p. 387.

² See Mr. C. B. Brewer's "Substitute for the Rate Increase," etc., *Scientific American*, vol. 104, p. 596; Mr. B. S. Hinckley's "The Scientific Thought Applied to Railroad Problems," in "Technology and Industrial Efficiency," p. 181. New York, 1911; Mr. S. M. Felton's "Scientific Management of American Railways," *ibid.*, p. 221; and an anonymous article, "The Comparative Merits of Functional and Geographical Systems of Organisation," *Engineering News*, vol. 64, p. 692.

³ This is shown in the articles by Mr. W. J. Harahan on "Scientific Management," *Railway Age Gazette*, vol. 50, p. 212; by Mr. M. H. C. Brombacher on "Application of Scientific Management to a Railway Shop," *ibid.*, vol. 51, p. 23; by Messrs. H. F. Stimpson, L. W. Allison, J. S. Sheafe, and C. J. Morrison, on "Application of Scientific Management to a Railway Shop," *ibid.*, vol. 51, p. 33; and by Mr. B. A. Franklin on "An Efficiency Experiment Station for the Railroads," *Engineering Magazine*, vol. 42, p. 1.

⁴ "A Letter on Efficiency," *Railway Age Gazette*, vol. 51, p. 221.

⁵ An anonymous article, "Scientific Management of Railway Shops," *Machinery*, vol. 10, p. 16, calls attention to the steps taken by railroads to investigate efficiency as a result of the agitation; and an editorial in *Engineering and Contracting*, "The Railways and Scientific Management," vol. 35, p. 379, points out that scientific management is now being applied to the railroads.

this,¹ may be cited the work in the Canadian Pacific Shops where scientific methods have been installed by Mr. Gantt and maintained and developed by Mr. Vaughan, a leading railroad expert.²

4. METHODS

In current discussions of scientific management so much emphasis has been laid upon such things as time study, motion study, functional foremanship, instruction cards, and slide rules, that there is serious danger of these mechanisms of the system being taken for the system itself. With the warning, however, that detailed methods, either separately or in mere aggregation, are not scientific management, it is worth while to report the best of the articles and books which have appeared describing these methods. Nor is it superfluous to warn readers of these articles that the methods dealt with are so technical in their nature that their successful practice requires not only an expert in the methods used, but an expert in the proper adjustment of these methods to each other and particularly to the entire spirit of scientific management.

There is an excellent series of articles dealing with the method of approach to the system,³ most of which are

¹ In spite of the conclusion by Mr. George J. Burns in "Notable Efficiencies in Railway Machine-Shop Operation," *Engineering Magazine*, vol. 42, pp. 161, 386, 616, that the setting of standards in a railroad shop is impossible.

² "Canadian Pacific Shop Management," *American Machinist*, vol. 35, p. 1104; and "Scheduling Locomotive Repair Work on the Canadian Pacific Railway," *Industrial Engineering*, vol. 8, p. 380.

³ The best of these are Mr. James M. Dodge's "The Spirit in Which Scientific Management should be Approached," *Scientific Management*, Tuck School Conference, p. 142; abstract in *Industrial Engineering*, vol. 10, p. 350; Mr. H. K. Hathaway's "Prerequisites to the Introduction of Scientific Management," *Engineering Magazine*, vol. 41, p. 141; the editor of *Industrial Engineering* has an excellent editorial on "Installation of Scientific Management," *Industrial Engineering*, vol. 10, p. 301; and there is a good article in the *Iron Age* by Mr. E. M. Taylor, "Modern Methods and the Business Specialist," vol. 84, p. 184. There is a suggestive and humorous account of the way not to do it, called "Echoes from the Oil Country," by Mr. W. Osborne, *Ameri-*

simplifications of the warnings so liberally scattered through Mr. Taylor's own books. The point of all of them is that no management should undertake to develop the Taylor System in its plant, unless it is prepared for a very considerable expenditure of time, money, and effort and a slow process of mental revolution on the part of itself and its employees.

Of the growing shelfful of books on the entire subject, the best is of course Mr. Taylor's *Shop Management* referred to above. This book deals mainly with machine shop practice, but the principles and methods are developed in such a way that their application to other types of industry is not difficult if made by those sufficiently trained. The book on *Concrete Costs* by Mr. Taylor and Mr. Sanford E. Thompson, referred to above, applies scientific management to concrete construction. The other books detailing methods of application are written by men who have studied more or less with Mr. Taylor, or have been strongly influenced by his methods. One of the best of these is by Mr. F. A. Parkhurst,¹ which includes a series of articles reprinted from *Industrial Engineering*. The book includes an outline of the organization of a plant under scientific management, and detailed statements of the functions of all the principal functional foremen, an analysis of routing, stores systems and time study, a discussion of standardization and many illustrations of forms and appliances. The methods described are based on the practice of the Ferracute Machine Company, and differ only slightly from the approved practice of the original Taylor group. Another excellent book by Mr. Holden A. Evans, formerly Commandant

can Machinist, vol. 34, p. 1036; and another by Mr. H. K. Hathaway, in the discussion of Mr. Taylor's "Art of Cutting Metals," Trans. A. S. M. E., vol. 23, p. 281.

¹ Applied Methods of Scientific Management. New York, 1912.

of the Mare Island Navy Yard,¹ deals particularly with machine shop, smith shop, and woodworking shop methods, and illustrates reductions in cost accomplished by these methods in Navy Yards under the author's supervision. In addition to its treatment of costs, it is concerned mainly with such developments in the direction of scientific management as may be undertaken by a manager not specially trained in the Taylor methods.²

The application of scientific management to foundries and machine shops is given in some detail by Mr. C. E. Knoeppel³ in a series of articles reprinted from the *Engineering Magazine*. This is an interesting and well-written description of the application of scientific management as interpreted by Mr. Emerson and his disciples.⁴

The best articles describing the functions of the planning department are those by Mr. H. K. Hathaway,⁵ in which he outlines briefly the duties of the functional foremen and illustrates the practical working of the extension of specialization to mental and supervisory work.

Perhaps the most distinctive feature of scientific management in the popular conception of the term is

¹ Cost Keeping and Scientific Management. New York, 1912.

² There is a good statement of underlying principles in Mr. Evans' article "Scientific Factory Management," *American Machinist*, vol. 33, p. 1108. The "System" Company of Chicago has published a little book, "How Scientific Management is Applied," Chicago, 1911, consisting of a series of reprints of System articles.

³ Maximum Production in Machine-Shop and Foundry. New York, 1911.

⁴ Attention may be called to articles by Mr. Holden A. Evans, "Detailed Instructions for Machine Shop Methods," *American Machinist*, vol. 31, p. 16, and "An Analysis of Machine-Shop Methods," *ibid.*, p. 468, and by Mr. Frederick A. Waldron, "Modern Methods of Shop Management," *Iron Age*, vol. 85, p. 982, which are almost too brief to be very useful.

⁵ "The Planning Department," *Industrial Engineering*, vol. 12, pp. 7, 53, and 97. With these should be read an anonymous article, "The Foreman's Place in Scientific Management," *Industrial Engineering*, vol. 9, p. 197; and the criticism of functional foremanship in Mr. John Calder's "The Production Department," *Transactions, The Efficiency Society*, vol. 1, p. 165.

its time study. Current methods of time study, however, are frequently confused with the Taylor method. In ordinary practice watches are often used to determine roughly the time an operation usually takes, and the result is sometimes made the basis of a piece rate. This type of time study is known to the Taylor group as an "over-all" study and is never used by them. The Taylor method consists in the analysis of operations into their elementary units and the determination of the best methods and time for the performance of each of these units and their summation into a total time for the entire job.

The best descriptions of elementary time study as practised by the Taylor group of engineers are those by Mr. H. K. Hathaway¹ and by Mr. H. W. Reed.² A comparison of these articles with the tables of operating times given in Babbage's *Economy of Manufactures* will effectively dispose of any claim that the Taylor methods were anticipated by Babbage.

The practice of time study involves motion study. The aim of motion study is to determine the most effective motion to accomplish a desired result; and one of the elements in the determination of its effectiveness is the time it takes to execute it. Time study and motion study, therefore, go hand in hand, but it is not impossible to make an effective and profitable motion study without the use of any timing device. There is an interesting foreshadowing of modern motion study in an experiment carried out in 1837. This was described by Thomas Lefevre,³ a foreman in the famous

¹ "Elementary Time Study as a Part of the Taylor System of Scientific Management," *Industrial Engineering*, vol. 11, p. 85.

² "A Time Study under the Taylor System," *American Machinist*, vol. 35, p. 680. A good article is that by Mr. N. E. Adamson, Jr., "The Taking of Time Study Observations," *Industrial Engineering*, vol. 10, p. 439.

³ *Guide Pratique du Compositeur*. Paris, 1883 (nouvelle edition).

printing plant of the Didots, who was struck with the fact that the traditional layout of the printer's case was not the one best adapted to the setting of type, in that usually the compositor had to reach farthest for the most frequently used letters. Lefevre, therefore, redesigned the case with a view to the maximum economy of effort and, after a test of both layouts, adopted the revised case for his plant. After some years of struggle with the traditions of the printing fraternity, the new case was abandoned; but the experiment is a good early illustration of the application of motion study.

The best descriptions of motion study as such are given by Mr. Frank B. Gilbreth.¹ Mr. Gilbreth endeavors to list the variables affecting the efficient performance of manual work, and to point out the extent of their influence. They are classed as variables of the worker, including anatomy, brawn, contentment, creed, earning power, experience, fatigue, habits, health, mode of living, nutrition, size, skill, temperament, and training; variables of the surroundings, including appliances, clothes, color, entertainment, heating, lighting, quality of material, rewards and penalties, size of unit moved, special fatigue-eliminating devices, surroundings, tools, union rules, and weight of unit moved; variables of the motion, including acceleration, automaticity, combination with other motions, cost, direction, effectiveness, foot-pounds of work accomplished, inertia and momentum overcome, length, necessity, path, play for position, and speed. The application of motion study to operations so small that they cannot be noted by the human eye unaided is accomplished by means of moving pictures.²

¹ *Motion Study*. New York, 1911. See also ch. xiv of his *Bricklaying System*. New York, & Chicago, 1909.

² "Micro-Motion Study — a New Development in Efficiency," *Scientific American*, vol. 108, p. 84. An illustration of the kind of results achieved is given by Mr. H. L.

The result of properly directed time and motion study is the standardization of methods and equipment to secure the largest output in the minimum time with no material increase of effort. Once standardization is effected, the method is reduced in detail to writing in the form of an instruction card¹ which is given the operator as a guide to the accomplishment of the pre-determined standard of production.

The multiplicity of data from which instruction cards are compiled must be reduced to such form that they can easily be made available. Particularly is this true in the case of the conditions affecting the most economical cutting of metal. The vast body of information on this subject as given in such a work as Mr. Taylor's "Art of Cutting Metals"² must, for practical purposes, be made handy for use by the instruction card man. This is the purpose of the slide rules devised and described by Mr. Carl G. Barth.³ Mr. Barth shows how the same methods by which slide rules for the solution of ordinary mathematical problems have been constructed, may be applied to the construction of slide rules for the solution of the more complicated mathematical problems involved in the determination of the proper speed, feed, and depth of cut for machine tools.

Gantt, "' Hipped ' on Motion Study," *Industrial Engineering*, vol. 8, p. 307, and by Mr. William D. Ennis, "An Experiment in Motion Study," *ibid.*, vol. 9, p. 462. Professor Walter D. Scott, "The Rate of Improvement in Efficiency," *System*, vol. 20, p. 155, presents a useful side-light on its application. The following articles show how it may be used in fields outside manufacturing: Mr. E. M. Wooley's "Lost Motions in Retail Selling," *ibid.*, vol. 21, pp. 366, 465, "Getting Out the Mail," *ibid.*, p. 284, and Mr. J. G. Frederick and Mr. H. S. McCormack's "Motion Study in Office Work," *ibid.*, p. 563.

¹ These instruction cards are illustrated in the article by Mr. Hathaway on time study referred to above, and in the following: Mr. H. W. Reed's "Following a Fixed Schedule Under the Taylor System," *American Machinist*, vol. 35, p. 1020; and "Two Turret Lathe Instruction Cards," *ibid.*, vol. 36, p. 915. See also Mr. Frank B. Gilbreth's "The Instruction Card as a Part of the Taylor Plan of Management," *Industrial Engineering*, vol. 11, p. 380.

² *Trans. A. S. M. E.*, vol. 28, p. 31.

³ "Slide Rules as Part of the Taylor System," *Trans. A. S. M. E.*, vol. 25, p. 49.

In spite of the fact that standardization is so fundamental a feature of scientific management, nothing of any consequence has been written on the subject.¹ In an article by Mr. P. Ballard,² the movement is criticized as not scientific, because its standardization methods stand in the way of progress. This illustrates a common fallacy in the discussion of standardization as that term is used by the scientific managers. It must be understood that standardization in their sense does not mean standardization of product, which is the common acceptance of the term, but the determination of the best material, equipment, and process discoverable at any given time and adherence to it until a better is found. So far from standing in the way of progress, this conception of standardization rather stimulates and aids more rapid improvement.

In the Taylor System, the term "routing" has two significations. Sometimes it refers to the physical layout of plants and the relationship of departments, — in this sense it is most completely treated by Mr. Charles Day;³ more usually, however, it is concerned with the analysis of the sequence of operations on the work and the determination of the place and time for each operation and group of operations. On this latter, the most intricate feature of the system, practically nothing has been published⁴ outside of Mr. Taylor's *Shop Management*.

¹ The best available is in an article by Mr. Charles Day, "Advanced Practice of Economical Metal Cutting," *Engineering Magazine*, vol. 27, p. 549, and in a book by Mr. C. U. Carpenter, *Profit-Making Management*, New York, 1908. There is a brief but suggestive article by Mr. E. M. Wooley on "Scientific Management in the Office," *System*, vol. 20, p. 3, dealing with the standardization of office equipment and supplies, and a characteristic note by Mr. Frank E. Gilbreth on "The First Case of Standardization," *Trans., The Efficiency Society*, vol. 1, p. 257, taking the shape of a brick as his example.

² "Scientific Management and Science," *Cassier's Magazine*, vol. 41, p. 425

³ *Industrial Plants*. New York, 1911.

⁴ The only reference of consequence outside the books is the article by Mr. H. L. Gantt, "The Mechanical Engineer and the Textile Industry," *Trans. A. S. M. E.*, vol. 32, p. 499.

Another characteristic feature of the Taylor System is the extensive use of classification and mnemonic symbolization. A series of articles by the present writer, points out the purposes and methods of classification and mnemonic symbolization and its application to the various functions of costs, administration, stores system, routing, and filing.¹

Altho the Taylor System has a distinctive type of cost accounting, its details have not been published. The first part of Mr. Holden A. Evans' book² deals with the subject, but not exactly in the manner in which it is practised by the Taylor group.³

The Taylor method of administering a tool room is admirably described by Mr. R. T. Kent,⁴ emphasizing the importance of standardization, classification, maintenance, and control. The administration of belting is discussed by Mr. F. W. Taylor.⁵

Attention has often been called to the fact that the second cardinal principle in Mr. Taylor's system, the scientific selection and training of employees, has received no systematic treatment at the hands of the Taylor group, at least so far as selection is concerned. Training is duly emphasized and illustrated by Mr.

¹ C. B. Thompson, "Giving a Business a Memory," *System*, vol. 23, p. 588; "Memory Tags for Business Facts," *ibid.*, vol. 23, p. 21; "Taking Factory Costs Apart," *ibid.*, p. 131; "Listing Stock to Index Wastes," *ibid.*, p. 260; "Keeping Tab on Finished Parts," *ibid.*, p. 386; "Right Filing and Easy Finding," *ibid.*, p. 586.

The only other article on the subject is a brief abstract of a paper by Mr. H. G. Benedict, "The Mnemonic Symbolizing of Stores under Scientific Management," *Industrial Engineering*, vol. 12, pp. 24, 69.

² *Cost Keeping and Scientific Management*. New York, 1911.

³ Mr. A. Hamilton Church's, *The Proper Distribution of Expense Burden*, New York, 1908, and *Production Factors*, New York, 1910, describe a method arrived at by him quite independently, which has been used in part for some time by the Taylor group. There is a brief anonymous article on "Cost and Time Keeping Outfit of the Taylor System," *American Machinist*, vol. 29, p. 781, and another by Mr. Charles J. Simeon on "The Scientific Management of a Foundry," *Iron Trade Review*, vol. 60, p. 68, which deal with some of the mechanical details.

⁴ "The Tool Room under Scientific Management," *Industrial Engineering*, vol. 9, p. 87.

⁵ "Notes on Belting," *Trans. A. S. M. E.*, vol. 15, p. 204.

Gantt in his *Work, Wages and Profits* referred to above. There are two good popular articles on the subject by Mr. E. M. Wooley, "The One Best Way," and "The Wanton Waste of Labor" referred to above. The only thing I have found on the selection of employees by any one even remotely connected with scientific management is a pamphlet by Mr. Harrington Emerson,¹ and this is an argument for the application of a system of selection which can only be characterized as a refined and slightly modernized phrenology, described in a book by the originators, Dr. Katherine M. H. Blackford and Mr. Arthur Newcomb.²

It must be evident from this survey that the literature dealing with the actual method of applying scientific management is as yet quite meagre. This situation is due to a number of factors, one among which is the natural reluctance of specialists to divulge the details of their profession, because of their apparently well-grounded fear that the attempt to describe methods which must be modified to meet a wide variety of contingencies must necessarily be inadequate and to a certain extent misleading, and that therefore it is safer not to attempt at all to describe them in writing. In view, however, of the rapid extension of scientific management to many varieties of industries, and the comparative scarcity of qualified "experts," it appears that the time is ripe for such an exposition of methods as may be immediately and directly useful to any manager of the requisite intelligence to sense their place in the system and to apply them with the thoroness and discretion necessary.

This criticism of meagreness does not apply to one of

¹ *The Scientific Selection of Employees.* The Emerson Company, 30 Church Street, New York.

² *The Job, the Man, the Boss.* New York, 1914.

the principal methods of scientific management, — the use of wages as an incentive. There is nothing new about such use of wages, but the method of the Taylor group is characteristically different. With them wages are not used primarily as an incentive to production but as an incentive to the acceptance of standardized conditions and training and the following of instructions. Increased production is the direct result not of the bonus or differential piece rate systems but of the utilization by the employee, in consideration of higher wages, of the improved methods, materials and equipment provided him by the management. This was the point, tho it is not made very clear, in Mr. Taylor's paper on "A Piece Rate System and Shop Management" referred to above, and it runs all through Mr. Gantt's *Work, Wages and Profits*.¹

5. THE PERSONAL FACTOR IN SCIENTIFIC MANAGEMENT

The apparently cold-blooded statements of Mr. Taylor in *Shop Management* and *The Principles of Scientific Management* in regard to his methods of training employees and the mathematical determination of the

¹ This is brought out a little better by Mr. Harrington Emerson in a paper on "A Rational Basis for Wages," *Trans. A. S. M. E.*, vol. 25, p. 868. Out of the mass of books and articles on this subject, the following are also suggested, not necessarily because they are written by members of the Taylor group, which few of them are, but because a study of them will help make clear the philosophy of the use of wage systems by that group. The following are comparative discussions of various methods of wage payment: Mr. S. E. Thompson's "The Taylor Differential Piece Rate System," *Engineering Magazine*, vol. 20, p. 617; "Differential Piece Rates" (anonymous), *Engineering*, vol. 80, p. 413; Mr. Clive Hastings' "The Efficiency of the Worker and His Rate of Pay," *American Engineer & Railroad Journal*, vol. 81, p. 238; Mr. Harrington Emerson's "Different Plans of Paying Employees," *Iron Age*, vol. 82, p. 1150; and Mr. C. B. Thompson's "The Reason for a Payroll," *System*, vol. 22, p. 249, and "When Higher Wages Pay," *ibid.*, p. 339. To get one's bearings in the discussion, the articles by Messrs. Towne, Halsey and Rowan referred to above, should be read, and the following: Mr. W. O. Walker's "The Value of Incentives," *American Machinist*, vol. 26, p. 996; and Mr. C. J. Morrison's "Piece Rates versus Bonus," *ibid.*, vol. 36, p. 178. Highly interesting in this connection are also Mr. Carroll D. Wright's "Profit Sharing,"

incentives which actuate their conduct have led to a considerable discussion of the treatment of the "human factor" by scientific management. Discussion is usually based on the truisms that system cannot take the place of honesty and intelligence, that specialization can be carried too far, that driving is an undesirable feature of factory management, that the workmen should not be made into automata, that they should not be set working against each other's interests, that attention should not be centered exclusively upon men above the average of ability, that the factors of habit and prejudice should not be ignored, that no solution of economic problems is complete which ignores the problem of distribution, and that the desires and aspirations of the men toward self-government and democracy must be recognized. Most of these points are mentioned in the Report of the House Committee on Labor appointed to investigate the Taylor and other Systems of Management,¹ leading to the conclusion that no recommendations were necessary, presumably because the criticisms suggested did not apply to the Taylor System.

The importance of a consideration of the human problem is emphasized by Mr. William C. Redfield.² The nature of the psychological problems involved and an indication of the method of approach to their solution are discussed at some length by Professor Hugo Münsterberg.³ The significance of the work begun by Mr. Taylor and his associates as it appears to a psychologist is emphasized, and examples are given of the more refined methods by which the psychological laboratory

Bureau of Statistics of Labor, No. 15; and the Report of the British Board of Trade on Profit Sharing and Labour Co-partnership in the United Kingdom. London, 1912.

¹ Government Printing Office, Washington, 1912.

² "The Moral Value of Scientific Management," *Atlantic Monthly*, vol. 110, p. 411.

³ *Psychology and Industrial Efficiency*. Boston, 1913.

may be made an aid in the discovery of principles for industrial application.¹

In a remarkable book by Miss Josephine Goldmark,² there is a suggestion that, altho scientific management has thus far avoided the pitfall of driving, there has not been the intensive and scientific study of fatigue which might reasonably be expected from the scientific attitude of the leaders in the movement. Mr. F. H. Dwight³ insists that the bonus as applied at the Bethlehem Steel Works is but another method of driving. The completest answer to the criticism of practice, no matter what may be said in regard to the absence of a scientific study of fatigue, is made by Clark & Wyatt,⁴ who give the results of an intensive investigation of the effect of the Taylor System on women employed under it. This inquiry, begun with the expectation of finding the science of driving reduced to practice, ended after exhaustive personal study in many plants in a complete exoneration of the Taylor-Gantt methods from this charge.⁵

¹ The fear that scientific management is an effort to substitute a system for integrity and ability is voiced by Mr. F. J. Whiting in "The Personal Equation in Scientific Management," *Stone & Webster's Journal*, vol. 8, p. 411. The fear of over-specialization finds expression in an editorial in *Engineering* (London) on "Scientific Management," vol. 93, p. 289, and is apparently the point of an article by Dr. Luther H. Gulick on "The Human Element," *Transactions of the Efficiency Society*, vol. 1, p. 181, and of one by Mr. A. Hamilton Church on "Intensive Production and the Foreman," *American Machinist*, vol. 34, p. 830. The answer to these may be deduced from Mr. M. P. Higgins' "Intensified Production and Its Influence Upon the Worker," *Engineering Magazine*, vol. 20, p. 568; Mr. Frank H. Rose's "The Rise of Labor Through Labor-Saving Machinery," *ibid.*, vol. 27, p. 836; Mr. A. E. Outerbridge, Jr.'s "The Educational Influence of Machinery," *ibid.*, vol. 9, p. 225, and "The Emancipation of Labor by Machinery," *ibid.*, p. 1012. The value of scientific management in finding the place to which the laborer is best fitted and in fitting the man perfectly to fill it is emphasized in an editorial in *Machinery*, "Helping a Man to Find His Place," vol. 18, p. 279; in Mr. David Van Alstyne's "Profitable Ethics," in "Technology and Industrial Efficiency," p. 207, New York, 1911; and in Mr. Harrington Emerson's "Ethics and Wages," *Outlook*, vol. 99, p. 682.

² *Fatigue and Efficiency*, The Russell Sage Foundation. New York, 1912.

³ "The Taylor System as a Machinist Sees It," *American Machinist*, vol. 34, p. 969.

⁴ *Making Both Ends Meet*. New York, 1911. See especially chap. 8.

⁵ Other significant articles on the same subject are: "Scientific Management as viewed from the Workmen's Standpoint," *Industrial Engineering*, vol. 8, p. 377, and Mr. Wilfred Lewis' "F. W. Taylor and the Steel Mills," *American Machinist*, vol. 24, p. 655.

The criticism that scientific management suppresses the initiative and ambition of the workman is presented by Mr. Frank C. Hudson¹ and further discussed by Mr. Holden A. Evans,² and particularly and most effectively by Mr. Charles B. Going³ who points out that one distinctive feature of the modern systems of management is the restoration of the individuality of the workman.

The complaint that the effect of the task and bonus method is to concentrate the efforts of each workman exclusively upon his own success and well-being, has not been dignified with a formal article, but is given expression occasionally in the hearings before the House Committee on Labor. It is pretty effectively answered in an article by Lieut. E. D. K. Klyce,⁴ which points out the absolute necessity of mutual helpfulness and coöperation in the Taylor System.

Mr. Taylor talks so much about the "first class man" and has emphasized so little his explanation that by the first class man he means the man adapted to the job he is doing, that the supposition is only natural that this system aims at the selection of the best only and the elimination of the average and mediocre.⁵

The undue haste with which outside followers of scientific management have attempted to revolutionize the methods and habits of thought of workmen and employers has called forth impressive and valuable warnings from Mr. James Hartness.⁶

¹ "The Machinist's Side of Taylorism," *American Machinist*, vol. 34, p. 773.

² "Effect of the Taylor System: What is to Become of the Mechanic?" *American Machinist*, vol. 33, p. 1095.

³ "The Efficiency of Labor," *Review of Reviews*, vol. 46, p. 659.

⁴ "Scientific Management and the Moral Law," *Outlook*, vol. 99, p. 659.

⁵ Illustrations given by Mr. Taylor do unquestionably show the strongly selective effect of his method; but this should not be allowed to distract attention from the effect of systematic training on the development of average and mediocre into "first class" men. This misunderstanding underlies the criticism in Mr. John R. Godfrey's "Eliminating the Inefficient Man," *American Machinist*, vol. 34, p. 1232.

⁶ "The Factor of Habit," *Transactions, The Efficiency Society*, vol. 1, p. 237. Still more effective is his book, *The Human Factor in Works Management*. New York, 1912.

The relation of scientific management to larger social problems is hinted at by Mr. Taylor in *The Principles of Scientific Management* and the ultimate bearing of the application of the system to social welfare, through the reduction of the cost of production and the increase of the purchasing power of the consumer, is briefly suggested. If it could be supposed that the tendencies inherent in the system would be allowed to work themselves out to their logical conclusions, social and economic consequences of a far-reaching nature would reasonably be expected. This possibility has raised unduly the hopes and enthusiasm of some of the advocates of the movement and has brought down upon it the criticism of those calmer individuals who realize, in the first place, that no economic tendency ever does or can work out to its logical conclusion, and, in the second place and particularly, that production and consumption are but a part of the entire economic problem. Those who are looking for a panacea for social ills and who suppose that scientific management was offered as such a panacea are keen to point out that it does not deal finally with the problem of distribution. Professor Edward D. Jones¹ was acute enough to see that Taylor's work developed a principle of distributive justice, namely, the rewarding of the individual for his individual performance, and was not disappointed that it did not go further in this matter than it professed to go. Mr. Dexter S. Kimball in the article mentioned above, Mr. Ralph E. Flanders,² and Mr. W. H. Herschel³ have pointed out, with the air of making a discovery that the

¹ Review of Taylor's "Shop Management," *American Economic Review*, vol. 2, p. 369.

² "Scientific Management from a Social and Economic Standpoint," *Machinery*, vol. 18, p. 764.

³ "Social Philosophy and the Taylor System — Will the Ultimate Result of the Taylor System be Beneficial?" *Engineering News* (London), vol. 65, p. 577.

Taylor System does not solve the problem of distribution. Mr. Louis Duchey¹ hails the failure of the system to solve the system of distribution and its one-sided emphasis on production as the force which will do most to intensify class consciousness and hasten the destruction of capitalism.

The test of democracy has of course been applied to this movement. Mr. Meyer Bloomfield² points out, apparently with some misgiving, that the loyalty of the employee must be secured by keeping the enterprise democratic; while Mr. Paul U. Kellogg,³ one of the editors of the *Survey*, is more specific to the effect that this new industrial force must be socialized. Mr. Frank T. Carlton⁴ goes still further by pointing out how the movement should be made democratic by giving the workman a voice in the determination of the conditions and the rate of bonus under which he will work. Scant agreement with this conception can be found in the writings of Mr. Taylor. His attitude and that of men of similar training and experience⁵ is that the employee has no right to control or participate in the management of the establishment. If this is strictly true, there is obviously in scientific management no place for recognition of trade unionism, the collective bargain, and other mutually agreed arrangements.

¹ "Scientific Business Management. What is it? What Effect Will it Have on the Revolutionary Movement?" *International Socialist Review*, vol. 11, p. 623.

² "Scientific Management: Coöperative or One-Sided," *Survey*, vol. 23, p. 312.

³ "A National Hearing for Scientific Management," *Survey*, vol. 25, p. 409.

⁴ "Scientific Management and the Wage Earner," *Journal of Political Economy*, vol. 20, p. 334.

⁵ "The Human Element in Scientific Management," by Messrs. H. R. Towne, Oberlin Smith, John Calder, A. C. Higgins, and A. Falkenau, *Iron Age*, vol. 39, p. 912.

6. SCIENTIFIC MANAGEMENT AND ORGANIZED LABOR

The attitude of Mr. Taylor and his immediate followers toward labor organization is difficult to determine from their writings. Thus he says, in *Shop Management*: "There is no reason why labor unions should not be so constituted as to be a great help both to employers and men. Unfortunately, as they now exist they are in many, if not most, cases a hinderance to the prosperity of both." He acknowledges the current obligation of society to organized labor for increased safety, shorter hours and in some cases better working conditions. It appears to be his belief, however, that where scientific management is practised fully and completely, the working man is automatically protected by the self-interest of his employer, owing to the fact that the administration of the task and bonus is dependent on the willing coöperation of the man and the maintenance of his efficiency through the complete standardization of conditions. Nowhere is he very clear, however, on the practicability of the collective bargain in a scientifically managed régime; while on the other hand he is definite and forceful in his denunciation of some of the methods of unionism, particularly the restriction of output.

Whatever Mr. Taylor's real view of the matter may be, the fact is that the labor unions have taken a violent antipathy to scientific management. This is at least partly due to what one writer calls Mr. Taylor's "unfortunate and tactless statements" ¹ in regard to labor. There are, however, other and more fundamental reasons for this lack of agreement. An anonymous writer

¹ Mr. C. H. Stilson, "Letter on Scientific Management," *American Machinist*, vol. 35, p. 175.

in the *Electrical Railway Journal*¹ points out that specialization, through its easy training of the unskilled, strikes at the heart of labor unionism as at present organized. An editorial in the *World's Work*² prophecies that "the foolish unions will oppose it as they opposed the introduction of machinery, and lose." *The Century Magazine*³ observes that the labor union insists upon "equality." Mr. G. F. Stratton in the *Outlook*⁴ finds the point of divergence in the fact that the unions set a minimum wage which the employers treat as a maximum. The chief reason, however, appears to be found in the policy of restriction of output. The belief that restriction of output is a confirmed labor union policy is apparently borne out by the Eleventh Special Report of the United States Commissioner of Labor, on the Regulation and Restriction of Output,⁵—one of those Government reports which, like the report on the hearings before the Labor Committee investigating the Taylor System and the Report of the Civilian Expert Board on Industrial Management of United States Navy Yards, which favored the application of scientific management to the navy yards, was suddenly and mysteriously "out of print" almost immediately after publication.

As was seen in an earlier section, railroads in their controversy with the scientific managers have not hesitated to point to the opposition of the labor unions as one of the reasons for the impracticability of the application of the system to their industry, and to substantiate their argument, as in an article in the *Iron Age*⁶

¹ "Scope of Scientific Management," vol. 41, p. 451.

² "Scientific Management and the Labor Unions," vol. 22, p. 14311.

³ "Taking Ambition out of the Workman," vol. 82, p. 462.

⁴ "Ca-Canny and Speeding Up," vol. 99, p. 120.

⁵ Government Printing Office, Washington, 1904.

⁶ "Railroad Efficiency and the Labor Unions," vol. 87, p. 476.

by quoting the restrictive laws of such an organization as the International Iron Molders' Union.¹

The published expressions of labor union leaders referring directly to scientific management have ranged from an attitude of suspended judgment to one of bitter antipathy. Mr. John Golden of the Textile Workers,² is non-committal but suspicious. Mr. J. P. Fry of the Iron Molders³ is sure that it is at least unscientific. Mr. James Duncan, vice-president of the American Federation of Labor,⁴ conveys the impression that scientific management is the summation of all the evils of all the generations of oppression of the working man. Yet this opinion is mild compared with that of the before-mentioned Mr. James O'Connell (now a member of the National Commission on Industrial Relations, which just now is once more investigating scientific management) in an official letter to Machinists' Unions, in which he says: "Wherever this system has been tried it has resulted either in labor trouble and failure to install the system, or it has destroyed the labor organization and reduced the men to virtual slavery, and low wages, and has engendered such an air of suspicion among the men that each man regards every other man as a possible traitor and spy. . . . We trust that you will be impressed with the importance of this matter, and will see the impending danger. Act quickly." The published articles in newspapers on this subject are very numerous; they are not listed here as they are variations on the same theme.

¹ Other interesting articles on the attitude of the unions towards premium plans are those by Mr. H. M. Norris, "Actual Experience with the Premium Plan," *Engineering Magazine*, vol. 18, pp. 572, 689, and Mr. James O'Connell, "Piece Work not Necessary for Best Results in the Machine Shop," *ibid.*, vol. 19, p. 373.

² "The Attitude of Organized Labor," *Journal of Accountancy*, vol. 12, p. 189.

³ "Relation of Scientific Management to Labor," *Iron Trade Review*, vol. 52, p. 917.

⁴ "Efficiency," *Journal of Accountancy*, vol. 12, p. 26.

The Machinists Union and after it the American Federation of Labor have made the application of scientific management in government arsenals, particularly in the arsenal at Watertown, Massachusetts, the object of their official attack. Reference has already been made to the report of the committee appointed to investigate the trouble there in 1911. In the 1913 report,¹ General Crozier deals with the recent petition of the Watertown employees referred to above. This petition is evidently the first gun in the campaign inaugurated by the American Federation of Labor at their 1913 convention in Seattle, at which they decided officially to fight the extension of the Taylor System.²

The best articles counselling the unions to take a saner point of view are those by Mr. Louis D. Brandeis,³ in which he argues that scientific management is but the application of thought and knowledge to industry, that increased efficiency and production operate in the interest of the working man, and that its progress and ultimate success are inevitable. The same thought is expressed by Mr. Harrington Emerson.⁴

On the other hand, scientific managers have been freely advised to recognize more fully the necessity of coöperation with the unions. This is the attitude of Mr. John R. Commons,⁵ who points out that the bonus system implies an individual bargain with the workman,

¹ Report of the Chief of Ordnance, 1913. Washington.

² Interesting articles bearing on the subject are those by Mr. Max H. C. Brombacher, "The Rock Island Arsenal Labor Trouble," *Iron Age*, vol. 89, p. 476; by Lieut.-Colonel W. S. Peirce on "Government Shop Management," *ibid.*, p. 476; and an article, "Scientific Management at United States Arsenals," *ibid.*, vol. 88, p. 1022, which includes a statement of former Secretary of War, Stimson.

³ "The New Conception of Industrial Efficiency," *Journal of Accountancy*, vol. 12, p. 35, and "Organised Labor and Efficiency," *Survey*, vol. 26, p. 148.

⁴ "The Fundamental Truth of Scientific Management," *Journal of Accountancy*, vol. 12, p. 17.

⁵ "Organised Labor's Attitude Towards Industrial Efficiency," *American Economic Review*, vol. 1, p. 463.

and therefore strikes at the very existence of the union, unless its terms can be made the subject of a collective bargain; of Dr. John H. Gray,¹ and of the present writer,² who holds that the labor unions may and should assist in the determination of the standardized conditions and of a day's work and its attainment, and that the existence of the unions is and will continue to be necessary to maintain an adequate minimum wage.

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¹ "How Efficiency Should Benefit the Employer, the Employee, and the Public," *Transactions, The Efficiency Society*, vol. 1, p. 67.

² C. B. Thompson "The Relation of Scientific Management to the Wage Problem," *Journal of Political Economy*, vol. 21, p. 630.

REVIEWS

ELSAS' AUSNAHMETARIFE¹

THIS monograph contains, primarily: (1) a list of commodity rates in force on Prussian railways, with explanations of the reasons for their introduction; (2) a discussion of the technique of Prussian commodity rate-making, and incidentally also of class rate-making; (3) a consideration of the economic effects of commodity rates in Prussia. The author collected his material while a graduate student at Tübingen, but states that he owed the initial suggestion to Professor Bernhard at Berlin.

It is the merit of the book that it gives us a systematic discussion of the rates under which 64 per cent of the freight traffic in Prussia moves. Every thinking inquirer has long known that the Prussian class rates, whether on a value or on a space basis, were inadequate to handle the varied business of that country. The classes must have been subject to exceptions; there must have been divergencies in interest between different parts of Germany, and consequent local pressure upon rates, of the same sort with which we are familiar in the United States. To suppose otherwise would be to run counter to very widespread experience. Yet it must be said that well-informed Germans have to a marked degree avoided the treatment of commodity tariffs in their descriptions of German rates. An official high in the Bavarian railway service assured the reviewer only last December that there were no competitive struggles between industrial interests in Germany that influenced railway rates. Shippers, he said, express "wishes," they do not make complaints.

¹ Elsas, Fritz. — *Die Ausnahmetarife im Güterverkehr. Ein Beitrag zur gegenwärtigen Eisenbahntariffpolitik. Tübinger Staatwissenschaftliche Abhandlungen.* Stuttgart: F. Enke. 1912.

Under these circumstances we welcome heartily the volume under review.

The reasons for the introduction of commodity rates in Prussia Elsas states as four: (1) the desire to encourage domestic production by making it easier to procure raw materials; (2) the wish to promote the sale of domestic products abroad, or in districts at home which are subject to foreign competition; (3) the wish to assist German trade centers in their competition with foreign trade centers; (4) the hope of helping German transportation agencies in competition with foreign railroads and waterways. This enumeration, of course, does not mean that commodity rates have no effects except as therein indicated. To show the importance of special rates in the home trade one has but to cite the objections raised some years ago by land owners in southern Germany to low rates on grain from eastern Prussia, or the complaints reported by Elsas which are directed by interior German points against the low rates accorded the seaports. It is possible at present to ship iron girders, for instance, from Dortmund to Bremen for 6.5 marks a ton, against a normal Special Tariff II rate of 9.6 marks. This prevents many towns south of Bremen from doing a distributing business to which they consider themselves entitled; for while the iron received under the commodity rate at Bremen cannot be forwarded on the same bill of lading, it is always possible to unload and reship it with a saving in expense sufficient to carry the freight back 44 kilometers.

Special tariffs in Germany are classified into those relating to foreign trade (import, export, and transit tariffs), and those relating to inland trade. The latter sometimes apply between all stations without exception, but often are limited to specified points of origin or of destination, or can be used only for shipments from specified points to other stations, also specified. Often, too, they are available only for limited periods of time, as in the case of special rates put in to meet a passing need. It is difficult to make an accurate general statement of the way in which these rates are constructed. Zone tariffs are common. Generally the unit

rate per kilometer declines as the distance increases, but this is not universal, and in one case a unit rate declines up to distances of 400 kilometers and then increases. In any event the reduction from the class rate is apt to be considerable. Road building material which would normally take a rate varying from 2.6 to 2.2 pf. per ton per kilometer, plus 6 to 12 pf. per hundred kilograms terminal charge, enjoys in fact a rate of 2.6 pf. up to 50 kilometers, of 1 pf. from the 51st to the 100th kilometer, and of 1.4 pf. per ton per kilometer for the whole haul when the distance is over 200 kilometers, with 6 pf. per hundred kilograms terminal in all cases.

Elsas is no critic of the existing scheme of things. He says nothing of the opposition which it is credibly asserted exists in eastern Germany to tariff reductions that tend to hasten the growth of the West and to deprive the East of a much-needed labor supply; nor does he mention the contrast between the interests of the Prussian railway system as a whole and the southern systems of Baden, Bavaria, and Wurtemberg, of which one result is perhaps the demand by Prussia that tolls be imposed upon the Rhine. There are also numerous questions touching the relations between the waterways and the railways in Germany which call for a solution; but no one of these is discussed. The monograph must not be taken for more than it is. It is not a profound discussion of the differences in local interests, altho it might have been that. It is a characteristic piece of German scholarly work: a painstaking, objective description of an important and neglected side of Prussian railway policy, full of information useful to students of German railways.

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BERNHARD'S UNERWÜNSCHTE FOLGEN DER DEUTSCHEN SOZIALPOLITIK AND ITS CRITICS

THE appearance in November, 1912, of a large pamphlet by Professor Ludwig Bernhard of the University of Berlin, entitled "Undesired Consequences of German Social Policy"¹ caused something like a sensation. Friedensburg's book of a year before had been the work of an official unable to agree with his colleagues in the Imperial Insurance Office.² Friedensburg's point of attack was the apparent degradation of the insurance system into poor relief at the hands of the insurance courts, and particularly the Imperial Insurance Office. Bernhard fears rather that the effect of the law is to instil into the insured a nervous hunt for pensions, a consciousness of bodily ills that leads to unconscious or often conscious exaggeration in the hope of higher pensions.

Professor Bernhard is well known for his remarkable book on the Polish question,³ one result of which was the creation by the Prussian ministry of a special professorship for him at Berlin. The present pamphlet grew out of an address delivered before the iron manufacturers in March, 1912.⁴ In four months it reached a fourth edition, and during the present year is to be developed into a large book.

Convincing at first reading, a closer inspection exposes much of the exaggeration so often characteristic of brilliant presentation. The harsh criticism aroused in Germany is on the whole justified, — Bernhard has painted the shadows only. His disclosure of evils is not followed by a construc-

¹ Ludwig Bernhard, *Unerwünschte Folgen der deutschen Sozialpolitik*. Berlin, 1912, pp. 116.

² Ferdinand Friedensburg, *Die Praxis der deutschen Sozialversicherung*. Berlin, 1911. Translated as "The Practical Results of Workingmen's Insurance in Germany" by Louis N. Gray. New York Workingmen's Compensation Bureau, 1911.

³ *Die Polenfrage*, 1907.

⁴ *Die Zukunft der Sozialpolitik*, address delivered before the Generalversammlung der Eisenhüttenleute, March 24, 1912. Reprinted in *Stahl und Eisen*, 1912, pp. 642 ff.

tive program. Only in his middle section does he attempt to propose reforms, and most of these are slight.

Yet his book has served a twofold purpose. Exaggeration is an effective method of directing attention to existent evils. An over-detailed code of industrial regulations, unnecessary bitterness in labor elections, increasing simulation and nervous disease consequent upon industrial accidents — these deserved attention. Especially in the last-mentioned field, Bernhard has aroused a storm of medical discussion that may help to settle much-vexed questions. He has forced economists to consider medical aspects of social legislation. Secondly, counter-criticism of Bernhard has perhaps led to a more intelligent judgment of the benefits of social insurance and social legislation in general.

The book attacks the entire German social policy. It is divided into three parts: "State regulation and private dependence," "The fight for insurance pensions," and "Political misuse of social institutions."

The first section deals with the world-old question of the relation of the individual to society. "Are there concrete cases from which we can learn where to draw a line that we must respect?"¹ In one chapter Bernhard points out the confusion resulting from the threefold supervision by the Bureau of Factory Concessions, the Police Bureau and the Employers' Insurance Associations.² In the next two chapters he complains of the detailed inquisitiveness of the factory inspectors, who even inquire of the workingmen whether they have breakfasted before going to work. He protests against the "river of ink" that flows from the notices, lists and statistics required of the manufacturer, who must post in his factory the legal requirements, thus allowing "an indirect

¹ *Unerwünschte Folgen*, p. 4.

² Before a manufacturer extends his business he must secure the assent of the *Konsumtionsbehörde*, which employs trained architects, doctors, etc., to investigate the plans to see that nothing injurious either to the laborers or to the neighboring property is involved. See Hitzel, *Zur Würdigung der deutschen Arbeitersozialpolitik*, München-Gladbach, 1913, p. 13. The police must see that proper measures for workingmen's protection are enforced, and the *Berufsgenossenschaften* are bound to instruct their members what safety-devices and regulations they consider necessary for the prevention of accidents.

control by the workers themselves." He must further, when Sunday or overtime work is necessary, submit a list of the workmen so employed, and the number of hours each. These are but samples. The regulations for Sunday industry with their exceptions, and exceptions to exceptions, and exceptions to these, are exasperatingly extensive. The legislative arrangement of recesses (when the working-time is over eight hours) is particularly inconvenient in the iron and steel industry. A schematic division of labor and pauses is not feasible in big industries, yet all the middle parties, with an eye to the labor vote, find "nothing more harmless and nothing more natural." The section closes with some remarks on government ownership. But except as the state feels compelled to maintain model working conditions, state ownership is not a part of the "social policy."

Just what Bernhard's own position may be is not clear. He admits the necessity of protective legislation on one page, and on the next protests against it. His rhetorical method leads him into exaggeration and inaccuracy. Hitze, for instance, has authoritatively disproved Bernhard's account of the origin of the Sunday labor-list laws as from deterrent motives.¹ Bernhard had apparently trusted second-hand reports.

In the third part of his book he recalls Abbe's ideal of a constitutional system of industry, and the attempts of the Prussian government to introduce the elective *Sicherheitsmänner* into certain branches of industry. "Common labor for common interests, political warfare forgotten," was the goal. How ill these hopes have been realized, he shows us in two chapters on "The Election-War" and "Party-Rule." The *Sicherheitsmänner* are not chosen from considerations of fitness, but are elected on strict party lines. The Social Democratic and Catholic laborers are thoroly organized in "free" or "Christian" unions; each group nominates its candidates, and the pre-election struggle is fierce and bitter. No means are spared to discredit the opposing candidates. Instead of softening class feeling, new bitternesses are engen-

¹ Hitze, pp. 31-35. Bernhard, pp. 19-21.

dered. The *Sicherheitsmänner*, once elected, are organized by their respective parties, are urged to use their positions for party ends, to spare judgment upon party members and be stern to others.¹ A similar unfortunate state of affairs exists in the insurance associations.² "Every labor-leader," says Bernhard, "knows that it is possible through control of social institutions to attain three important political ends. First, an exact thoro orientation, by collection of useful material. Second, an intensive propaganda. Third, the payment of deserving party members with influential, eventually even with salaried positions. . . . And so the bright hope for 'common labor for common interests' pales."³

Bernhard is largely right. "By making political the institution of the *Sicherheitsmänner*, the good purpose of the law is rendered entirely vain," said the man who was largely responsible for it.⁴ "Party politics play a rôle in our social elections which is far greater than is just," admits Dr. Hitze in his reply to Bernhard.⁵ There are to be sure mitigating considerations. "That these elections are fought with weapons ethically to be condemned is surely regrettable," says the Socialist Kampfmeier,⁶ "but it is true of all elections to social or political institutions in which fundamentally contrasted interests meet." To the laborer, "they are wars for social existence, in the literal sense of the word, these political wars." Parties represent distinct social and even hygienic positions, and it is a matter of importance to the

¹ Bernhard attacks particularly Social Democratic methods. Rudolph Wissell (*Unerwünschte Folgen der deutschen Sozialpolitik*, V. Correspondenzblatt der Generalkommission der Gewerkschaften Deutschlands, February 22, 1913), cites similar methods used by the Centrum. But altho he corrects Bernhard in one instance, he does not deny the general fact of electoral excesses.

² He refers to Möller, *Die Herrschaft der Sozialdemokratie in der deutschen Krankenversicherung*. Berlin, 1910.

³ P. 106.

⁴ Staatssekretär des Innern Hans Delbrück in the Reichstag, January 16, 1913. On this and previous dates the *Sicherheitsmänner* were severely criticised in the Reichstag. See Reichstagverhandlungen, Band 287, pp. 3024, etc.

⁵ Hitze, p. 83.

⁶ Kampfmeier, *Tendenzwissenschaft gegen Sozialpolitik*. Sozialistische Monatshefte, January 16, 1913, p. 6.

laborer to what program the candidate adheres.¹ Yet a fair-minded observer must admit that no class reconciliation has followed the introduction of these semi-democratic institutions.² The bitterness, even wickedness, of the party struggle remains.

The central section, on "The Fight for Insurance Pensions" has aroused most discussion and most dissension. Between data and conclusions we must distinguish — that the former do not justify the latter does not indicate their insignificance. Bernhard has been attacked for one sentence in particular: "Workingmen's insurance," he says, "shows moral and hygienic consequences which, at first accepted in the bargain as unavoidable evils, have gradually thrown the whole question of the benefit of workingmen's insurance in doubt."³ This statement is more sweeping than Bernhard himself attempts to defend. A fairer exposition of his real position, I think, is found in his earlier address: "You all know that the insurance idea is fundamentally sound. . . . But there are indirect effects which have become so important that it is time to speak openly about them. . . . In Germany hitherto we have considered it manly and proper not to let the accidents of life overwhelm us, but to draw upon the slumbering reserve forces to help to win out through ignoring and becoming used to misfortune. Today the doctors report that this virtue scarcely exists except outside the working classes."⁴

The insured laborers, he fears, are becoming enervated by their assured position. They readily give themselves up to

¹ See Kampffmeyer, *Vom Kathedersozialismus zum Kathederkapitalismus*. Ludwigshafen, 1913, p. 41. In the same paper (pp. 27-37), Kampffmeyer emphasises the political activity on the other side of the fence — by the capitalist class. And Hise (pp. 83-84), comments on the undue party spirit shown in elections of all sorts; yet, he adds, we do not therefore propose to abolish elections. The Imperial Insurance Law of 1911 changed the form of government in the sickness insurance funds in an endeavor to decrease party politics.

² Akke Hise (pp. 85-87) attributes to the social policy the growing revisionism of the German Social Democracy.

³ "Die aber allmählich den Segen der Arbeitsversicherung überhaupt in Frage stellen," p. 90.

⁴ *Die Zukunft der Sozialpolitik*. Stahl und Eisen, 1912, pp. 642, 644.

bodily ills, they exploit their wounds, they exaggerate their pains; for so they can win larger pensions. "The endeavor to utilize an accident is humanly so explicable that a distinguished doctor has called such ideas an entirely normal occurrence even among the best people. But the peculiar danger lies herein, that broad paths were opened for this human weakness when compulsory pension-insurance was introduced for many millions of men, and when, partly from ignorance, partly in the desire to win the masses, the necessary precautions were dispensed with, and state insurance was given a form that actually invited misuse. In a land in which many millions of men are insured in the same fashion, many millions of eyes are watching the mechanism of payment. Every imperfection in the structure will be discovered and utilized, every possibility will be tested and quickly become known among the masses. And this 'orientation' of the masses is not left to accident, but is completely organized. Today the labor unions—socialist and all—have their standing representatives in the Imperial Insurance Office; their secretaries, through whom not only are the laborers supported in court, but the press supplied with material and the members of the Reichstag given their bearings. . . . In this situation," he concludes, "there is only one way to win clearness where party interests and party intrigues have clouded the horizon; one must study the medical literature."¹

In a short chapter he cites over seventy-five titles from the literature of the last twenty-five years on the nervous consequences of accidents and accident insurance. From the publication of Oppenheim's *Die traumatische Neurose*, in 1889, medical discussion has been prolific. In 1895 Strümpell came to Oppenheim's support. Säger in 1896 published his important observations at Hamburg. The doctors began to urge reform of the insurance laws. Auerbach in 1901, Quincke in 1905, Hoche in 1907 and 1910, Laquer in 1912 (among others) contributed further important evidence.

¹ Unerwünschte Folgen, pp. 47-48.

The Hamburg data were based on comparative observations of German and foreign laborers. The former, conscious of the right to a pension, got well more slowly than the latter. Subjective difficulties delayed the healing.¹ Several doctors found a lack of coöperation on the part of patients, an unwillingness to get well quickly, an unwillingness to admit a full capacity for work. Despite the improvement in surgical methods a longer period is today required for cure than before the insurance.² A steady increase in nervous diseases consequent upon accidents is reported. Cure of such disturbances is the exception in Germany, while in countries granting lump-sum compensation it is the rule.³

The third chapter handles simulation. "The insured seek so to date their old troubles, pains, stiff-jointednesses, that they may get the highest possible pension. Such simulations of causal connection, often carried out with great refinement, can only with great difficulty be proved by the doctors, and proof is almost impossible when the patient says that a previous injury has been badly aggravated." The workers instruct each other in methods of simulation. The accident hospitals and doctors' waiting-rooms become practically schools for simulation, the old neurotics instructing the youngsters. Actual aggravation of bodily ills also occurs, and this is very difficult to detect. Finally, the doctors are unduly lenient towards patients whom they have come to know.

Simulation and "pension-hysteria" are often difficult to distinguish. But in the diffusion of hysterical, neurasthenic and hypochondriac phenomena lies a greater danger. The former is a moral weakness — the latter a physical infection. Bernhard quotes Hoche,⁴ "After accidents which may in

¹ Lauenstein, *Beiträge zur Frage der Erwerbsunfähigkeit*, 1893-94. Säger, *Die Beurteilung der Nervenkrankungen nach Unfall*, 1896. Cited by Bernhard, p. 55.

² Dittmer, *Archiv für Unfallheilkunde*, etc., 1896, pp. 177 ff. Cited by Bernhard, p. 56. Similar observations have been made in Holland and Austria.

³ According to Schaller, 9.3% cures in Germany, according to Wimmer 93.6% cures in Denmark. Naegeli from Switzerland and Billstroem from Sweden report large percentages of cures after lump-sum compensation.

⁴ Hoche, *Geisteskrankheit und Kultur*, pp. 25 ff.

themselves be small and unimportant, nervous ailments enter of the most various kinds, connected with a general hypochondriac depression which makes the patient incapable of work and at the same time assures him of the legal right to a pension graded to his condition. It is not, as was at first thought, a case of intentional simulation of non-existent symptoms. The patient is ill, but — extraordinary as it seems — he would be well were there no pension law. . . . The fact of insurance and the right to a pension, and especially the suggestive influence of the conversation of his wife and comrades, direct his attention . . . to his own bodily condition. The educative factor of need, the healing compulsion to pull himself together and do away with small ills by ignoring them, is no longer present." Similar complaints he reports against invalidity insurance.¹ The labor press, the labor secretaries, the "people's lawyers" constantly suggest the pension hunt. Every possible aid is given. A man's friends urge him on, sympathize with his injury; his wife does the same, until he comes to watch his every pain and weakness with elaborate care. Individual cases may be excusable, but a social danger is present and is serious. The idea has become diffused that the mere fact of accident entitles to a pension, irrespective of capacity to work.

That the prevalence of "accident neurosis" has not received more general attention Bernhard thinks is due to the statistics of Biss, Merzbacher and Stursberg,² who reported an exceedingly low number of such neurotics. (Biss 57 cases in 71,800 accidents; Merzbacher 13 in 85,000; Sturs-

¹ But it is worthy of note that practically the whole of Bernhard's, as of other attacks, is directed against accident insurance. Dr. Horn, for instance, after statistical investigation, reports simulation to be twice as frequent in accident as in invalidity cases. *Ärztliche Sachverständige Zeitung*, 1913, No. 11, p. 230. One cannot refrain from the observation that accident insurance is in Germany non-contributory, while the laborers contribute approximately half of the cost of invalidity insurance, and two-thirds to the sickness insurance, against which least complaint has been made. Accident pensions may, therefore, be looked upon as "something for nothing," of which it is rather clever to get as much as possible — as it is the employers' association that pays. Just how much significance should be attached to this observation would require a very close and broad knowledge of actual conditions.

² Paul Biss, *Ärztliche Sachverständige Zeitung*, 1904, pp. 257 ff., and 1910, pp. 450 ff. L. Merzbacher, *Zentralblatt für Nervenheilkunde und Psychologie*, 1906, pp. 906 ff. Schulze and Stursberg, *Erfahrungen über Neurosen nach Unfällen*, p. 4.

berg 24 in 14,259.) These statistics he attacks as based on an unwontedly narrow conception of "accident neurosis," and on inadequate evidence. Doctors still disagree in defining "accident neurosis"; indeed Bernhard feels it quite impossible to reach valuable statistical percentages. He is sure, however, that we can speak here of a "psychic infection" pervading the masses, of an "epidemic diffusion of unhealthy ideas," a disappearance of the sense of personal responsibility.¹

That the period required for cure has increased since the passage of the insurance law and that it is longer among insured than uninsured, are established facts. But, as Dr. Fassbender² points out, this is in part due to more careful observation of cases and is really desirable. Laborers are no longer allowed to return to work before complete recovery.

The importance to be attached to Bernhard's discussion of simulation and accident neurosis depends upon the extent to which the evils are believed to exist. Bernhard himself recognizes the extreme diversity of opinion in the medical profession. The economists incline to minimize these evils. The doctors are more concerned, and their opinion is perhaps less academic. Those who discuss the matter are however in large part confidential doctors of the *Berufsgenossenschaften* and so open to suspicion of bias. The oft-quoted opinion of Kuhn and Möbius³ that "the number of simulants which a doctor observes stands in inverse ratio to his medico-psychological knowledge" is probably exaggerated,⁴ but a confidential doctor is in fact liable to a sort of jailer's pessimism. Pure simulation seems to be extremely rare, but exaggeration more or less conscious is undoubtedly frequent. It is often associated with cases of actual accident neurosis. Laquer⁵ quotes Sachs as saying that there is a complete

¹ Bernhard, pp. 74, 75.

² Fassbender, *Das Recht des Arbeiters auf Rente und seine Wirkungen auf den Volkscharakter und die Volkskraft*. Contribution to Hitee, p. 70.

³ Cited by Kaufmann, *Licht und Schatten bei der deutschen Arbeitsversicherung*, 1912, p. 12, by Thieme. *Handbuch der Unfallkrankungen*, 1909, vol. i, p. 151, and others.

⁴ See Stursberg, *Unerwünschte Folgen deutschen Sozialpolitik?* 1913, pp. 22-23.

⁵ Laquer, *Die Heilbarkeit nervöser Unfallfolgen*, 1912, p. 9.

series from one to the other. But Bernhard undoubtedly exaggerates both its frequency and the difficulty of detection. A well-instructed doctor should be able to detect simulation and to distinguish it from hysteria. Some of the evil probably lies in insufficient instruction at the university clinics.¹

Bernhard's remarks on the increase of nervous consequences of accident among laborers are of doubtful significance. The evil is not confined to one class. Wissell² quotes figures showing an extraordinary increase of nervous disease in the German army and navy. The pension law is not the single cause of the increase. Economic development has brought with it an ever-increasing nervous strain. Monotonous factory-labor, the roar of machinery, the constant danger, the uncertainty of regular employment — all these have their effects. The frequency of nervous troubles in the United States, despite the lack of general accident insurance, is well known. Yet there exists among those insured against accident in Germany a disease which, however variously defined, is recognized by all. The possibility of a high pension causes patients to work themselves into a nervously unsound condition through the worry of uncertainty and the hope of a high award. The continued possibility that the pension be lowered maintains this unsound state. Sometimes it is accompanied by objective symptoms, sometimes not. It does actually tend to incapacitate patients for work. Further than this doctors are not agreed. Laquer and Naegeli make statements flatly contradictory to those of Schultze and Stursberg. Each doctor states his own conclusions as the definitive opinion of the medical world. When doctors disagree what "accident neurosis" is and how widespread it is, where simulation stops and neurosis begins, whether neurosis be curable and how dangerous it is, Dr. Fassbender is certainly justified in saying that the time is

¹ See Stursberg, p. 32, and Naegeli, *über den Einfluss von Rechtsansprüchen bei Neurosen*, 1913, p. 10. On the whole question of simulation see: Stursberg, pp. 18-23; Fassbender, pp. 70-75; Wuermeling, contribution to *Histe*, pp. 49-52; Horn; Schultze-Stursberg, p. 27, etc.; Naegeli, pp. 10-11, 17, 25, and Laquer, p. 5.

² Wissell, vol. iv.

not yet ripe for Bernhard's work. To draw such sweeping and positive conclusions from such a medical maelstrom is surely presumptuous.¹

One expects from Bernhard proposals for great reforms. He proposes, indeed, a group of excellent changes, but they are simple and relatively trivial — many are quite unrelated to the evils he has disclosed. Reform, he says, is difficult, because the great political parties anxiously avoid anything that might displease the masses.

First he urges simplification of the process of appeal. The Imperial Insurance Office has for years been notoriously overloaded. The Law of 1911 attempted some relief,² but Bernhard thinks it only threw the burden upon the lower courts, and that the complexity remains.³ Against such reform none will protest; the government itself has for some years been working for it.

Next, he urges removal of the so-called waiting time. Accident cases are at present handled for the first thirteen weeks by the sickness authorities. This provision was inserted for two reasons: first, to introduce a contributory element into the accident insurance; second, because the sickness authorities were already in a position to give immediate treatment. When after three months the *Berufsgenossenschaft* assumes control, it often has no record of the previous course of the case, and an unpleasant break in the manner of treatment, often arousing suspicion in the patient's mind, is probable. The *Berufsgenossenschaften* have a certain right to assume charge of cases before the waiting-time is past, but as Bernhard observes, they have made slight use of it. Since 1906 the Imperial Insurance Office has been constantly urging the taking over of cases by the *Berufsgenossenschaften*. The

¹ On the "accident neurosis," Laquer and Schultze-Stursberg are, perhaps, the best recent short works. Since the publication of Bernhard's book, Naegeli has presented a position at least as extreme and Stursberg has replied to Bernhard.

² With remarkable success: there were 23,001 cases before the Imperial Insurance Office in 1912 under the old law; in 1913, only 12,913. See *Ämtliche Nachrichten des Reichversicherungsamts*, February, 1914, p. 261.

³ As the number of cases before the *Schiedsgerichte* (upper insurance courts) in 1913 has not yet been published, it is still impossible to ascertain if Bernhard be right.

Law of 1911 contained several paragraphs expressly designed to facilitate such procedure.¹ The utilization of the right, altho still small (1912: 2.81% of all cases) has steadily increased.² The figures for 1912 show an increase over those for 1906 of 73.4% in the number of cases so handled, and of 87.6% in the amount so expended. It is naturally difficult to induce the *Berufsgenossenschaften* to assume expenses not required of them, and a large increase is not immediately to be expected — nor is it in all cases desirable.³

Many writers have remarked on the superabundance of appeals from the lower courts, in pension cases. The overburdening of the Imperial Office was to some degree relieved by the law of 1911. Many appeals are for cases of obvious simulation. Under the present system, appeal costs the litigant nothing. Bernhard urges a change. Already the Imperial Insurance Office may in some cases charge costs to the appellant, but has seldom done so. General opinion recommends further exercise of the right.⁴ Bernhard's proposal is once more justified, but not at all new or radical.⁵

Almost one-half of the pensions granted are for under 25% of the normal wage.⁶ Pensions of 5 and 10%, which are often granted, are really nothing more than a gift. In 1911, the government proposed that pensions under 20% should be

¹ Book III, II, 2, §§ 573-576.

² In 1906, 1.96 % of reported accidents (1.52 % of rural cases; 2.65 % of industrial) were taken over by the accident insurance authorities; in 1909, 2.40 %; in 1912, 2.81 % (3.48 % of rural, 2.65 % of industrial). From 1896 to 1906 the amount of such care had barely maintained the same level. The cost in 1896 was 478,552M.; in 1906, 714,072M. See Kaufmann, *Schadenverhütende Wirkung in der deutschen Arbeiterversicherung*, pp. 57-76, and *Ämtliche Nachrichten des Reichsversicherungsamts*, February, 1914, p. 292.

³ See Stursberg, p. 24.

⁴ Stursberg (p. 24), for instance, says that his experience leads him to believe that laying even a small portion of the costs to the appellant would exercise a strong deterrent effect.

⁵ His figures as to appeals are, however, misleading, as he includes the unsettled claims of the previous year. Instead of 170,000 there were about 70,000 appeals in about 400,000 cases in 1911, 17.18 % of all cases. Both amount and success of appeals have shown steady decreases since 1895. See Wissell, vol. II, February 1, 1913.

⁶ Wuermeling (p. 54) says, "three-quarters" but he is in error. He takes his figures from the *Leitfaden zur Arbeiterversicherung des Deutschen Reichs*, Berlin, 1913, p. 47, but the figures he quotes are for incapacity for work from 0% to 25% — thus including 0%.

granted for a limited period only. Political considerations prevented the passage of this provision. Bernhard justifiably renews the proposal. Stursberg¹ approves it, and Wuermeling² brings no sufficient argument against it.

Bernhard's final and most important proposal is that lump-sum compensation be adopted in cases of "accident neurosis." Such a plan has been tried in Switzerland,³ Denmark,⁴ and Sweden⁵ with marked success. In most cases where the patient is obviously suffering from pure "traumatic" or "accident neurosis," the prompt settlement of his claim effects a cure. Medical opinion seems cautiously but generally to support Bernhard's proposal.⁶ The question is still new and requires further study. None of the investigations are based on very extensive data. The present German law allows lump-sum compensation only with foreigners, or when the pension would be under 20%, and in any case only with the consent of the insured.

There are, of course, certain general objections to the principle of lump-sum compensation. Bernhard mentions only one, that with low caliber persons the compensation is very soon spent and they once more become a burden upon society. More important is that advanced by Wuermeling. While the pension can at any time be raised or lowered as the effects of the accident vary, lump-sum compensation may be, once for all, either too high or too low. The patient may live too long or not long enough. This argument, however true when applied to the insurance principle, is not relevant when that very adaptability to the patient's varying condition is

¹ Pp. 24-25.

² P. 54.

³ Naegeli, *Nachuntersuchungen bei traumatischen Neurosen* (Korrespondenzblatt für Schweizer Ärzte 1910, No. 2,) reports cures in every case of traumatic neurosis uncomplicated by objective disease.

⁴ Wimmer, *Die Prognose der traumatischen Hysterie und ihre Beeinflussung durch die Kapitalabfindung*. Zentralblatt für Nervenheilkunde und Psychiatrie 1910, pp. 117-123 reports from Denmark 93% cures after such treatment.

⁵ Naegeli, *Über den Einfluss von Rechtsansprüchen bei Neurosen*, p. 20, reports, after Bihlström, 90% cures in Sweden.

⁶ See Wuermeling, pp. 54-59, Fassbender, pp. 76-78, Stursberg, pp. 25-26, Schultze-Stursberg, pp. 28, 50 for very moderate opinions; Laquer, Naegeli, Horn, *Über nervöse Erkrankungen nach Eisenbahnunfällen* Bonn, 1913, Wimmer Leppman in *Zeitschrift für Ärztliche Fortbildung* 1911, No. 22, etc.

in large part the cause of his continuing incapacity. Lump-sum compensation may be in such cases, as Wuermeling says, a form of surrender, but as he adds, it is a sacrifice that avoids greater sacrifices.

One further objection is advanced in particular by Schutze.¹ It can cause lump-sum neurosis instead of pension-neurosis. It may strongly develop the nervous ailment in the period immediately following the accident; and as Horn² points out, lump-sum compensation to be effective must be immediate. This only argues what all doctors seem to agree upon, that this form of compensation, while desirable in some cases, should be applied only sparingly, after thoro medical investigation, and where there seems good reason to believe that full capacity for work may be restored. The Danish method of an immediate limited compensation followed three years later by a definitive decision is perhaps best.

In Germany further provision for lump-sum compensation is not likely, it seems, soon to be made.

Such are Bernhard's proposals for reform. They are not new, and they come somewhat as an anti-climax after his sweeping proclamations of disaster. One ray of hope he sees — in growing bureaucratisation. We have passed through the age of baroque social legislation, he says, and are ripe for an era of rest. We need not fear the growing power of the Social Democracy. Party wars lead more and more to neutralisation — and that means bureaucratisation — of social institutions. In the sickness funds, everywhere, he sees a growing centralization of administration, and this he welcomes. (A curious contrast it makes to his demand for "freedom" from bureaucracy in his earlier chapters.) He sees displayed "the tragedy of all great reform movements, that the unforeseen results are greater than the foreseen." And finally, "after a proud and victorious era of progress the time has come to make fast what we have won and to break the way toward new goals."³

¹ Schultze-Sturberg, p. 28.

² Horn, *Über Simulation bei Unfallverletzten und Invaliden*; *Ärztliche Sachverständige Zeitung*, No. 12, June 15, 1912.

³ P. 116.

The influence of Bernhard's brilliant book has been great. It has called forth a vast mass of literature of varying worth. Some is in direct answer to Bernhard, some is less controversial.

To the first group belong, of course, a great number of social-democratic replies, many of them rather wild.¹ An exception is an excellent series of articles by Rudolph Wissell,² founded upon wide knowledge and supported by significant statistics. Perhaps also written with some political "Rücksicht" is a book by the leader of the "Kölnische Richtung" in the Centrum, Dr. Franz Hitze.³ This is by far the most important reply that Bernhard's work has elicited. Dr. Hitze has left to Drs. Wuermeling and Fassbender the task of answering Bernhard's criticisms of social insurance; he has himself replied to the rest. As a member of the Reichstag, he has been personally concerned in the passage of many of the measures for workingmen's protection. Some of Bernhard's data he shows to be quite inaccurate, and some of his criticisms petty. I know no better short statement of the theory of social insurance than his chapter on the fundamental conception and aim of workingmen's insurance. This he follows with a statistical summary, and an estimate of the physical, economic and cultural contributions made to the German nation by its social policy.

Wuermeling and Fassbender, in chapters in the volume containing Hitze's criticisms, find fault with Bernhard's interpretation of medical opinion. More thoro is Stursberg's reply, already referred to. Stursberg is immediately concerned with the rehabilitation of his own statistics, which Bernhard had attacked; but he also considers Bernhard's whole discussion of accident insurance. Between Bernhard

¹ Perhaps the best of such is Kampffmeyer, *Vom Kathedersozialismus zum Kathederkapitalismus*. Ludwigshafen, 1913, p. 43.

² Rudolph Wissell, *Unerwünschte Folgen der deutschen Sozialpolitik*. Correspondenzblatt der General-Commission der Gewerkschaften Deutschlands, Berlin, 1913, Nos. 4, 5, 6, 7, and 8.

³ Hitze, *Zur Würdigung der deutschen Arbeiter-Sozialpolitik*. Mit Beiträgen von Geh. Oberregierungsrat Dr. Wuermeling und Sanitätsrat Dr. Fassbender. München-Gladbach, 1913, pp. 122.

and his opponents, he takes a middle stand. Neurosis and simulation he thinks far less frequent than Bernhard reckoned, but still significant. From a more thoro preparation of doctors he expects the greatest advance. The columns of many medical journals¹ have copiously discussed the medical problems. The excellent works of Laquer, Naegeli, Wimmer and Schultze-Stursberg,² tho published before Bernhard's book, contain important contributions to the discussion of pension versus lump-sum compensation. Naegeli's more recent paper³ sums up admirably a rather extreme position.

Not a single economist has come out in defense of Bernhard, if we except the laudatory article of the economic editor of *Stahl und Eisen*.⁴ Zahn,⁵ Lenz,⁶ and Witzleben⁷ have been outspoken in their criticism, as have others too numerous to mention. Alfred Weber,⁸ in an essay in which he calls for greater emphasis upon the spiritual instead of upon the merely material conditions of existence, pauses to attack Bernhard severely. Ritzmann,⁹ while agreeing with Bernhard's complaint of complexity in the industrial laws, feels them quite necessary.

Social insurance at its inception sought chiefly to soften the contrasts of industrial warfare and to keep the laborers above the poor law line. A third purpose — to raise the national health by immediately prophylactic measures — has developed in importance since. Bernhard's book has

¹ In particular, the *Ärztliche Sachverständige Zeitung*. One of its editors, Erwin Franck, criticises Bernhard unsparingly, 1913, Nos. 6 and 17.

² See notes 3 and 6 to page 573.

³ Naegeli, *Über den Einfluss von Rechtsansprüchen bei Neurosen*.

⁴ Dr. Beumer in "Der Tag," 1912, No. 232.

⁵ Friedrich Zahn, review of Bernhard's book in *Zeitschrift für die gesamte Versicherungs-wissenschaft*, 1913, pp. 262-264.

⁶ Friedrich Lenz, review of Bernhard's book in *Preussische Jahrbücher* Band 151, 1913, pp. 543-556.

⁷ G. V. Witzleben, review of Bernhard's book in *Schmoller's Jahrbuch für Gesetzgebung* 1913, p. 489-496.

⁸ Alfred Weber, *Neuorientierung in der Sozialpolitik?* *Archiv für Sozialwissenschaft und Sozialpolitik*, Band 36, 1913, pp. 1-13.

⁹ Ritzmann, *Soziale Gesetze und moderne Betriebsleitung in ihren Beziehungen zu den Erfolgen der nationalen Wirtschaft*. *Sozial Technik*, 1913, Heft 15.

renewed discussion of the success of social insurance in achieving these purposes. In the first insurance has obviously failed. Zahn¹ and Wissell² have found no actual diminution in poor law expenses, but both feel that without insurance the increase would have been greater. The minimum of existence has been raised. Zahn thinks the circle of entire dependents has relatively decreased; Wissell lays more emphasis upon the ever-rising standard of living.

Hitze accepts the prevalent opinion that the immense amounts expended for sanitary and medical purposes have actually improved the health of the German people. Zwiedineck-Südhorst³ also takes this stand, but feels that further advance would endanger individual self-dependence. Alfons Fischer,⁴ however, attempts to show that the beneficial influence of social insurance 'has not kept pace with the degeneration being wrought by industrialization, and therefore demands its further extension.

The present year may bring forth an authoritative report from the Reichsamt des Innern on the economic, physical, moral and social effects of the German workingmen's legislation, and its effects on industrial evolution. The discussion in the Reichstag, January 23, 1913, brought forth a request by the Centrum for such a work, and the government agreed to undertake it. Meanwhile, we may judge its tone from the most recent book of the optimistic president of the Imperial Insurance Office.⁵ An earlier paper of his,⁶ appearing just before Bernhard's, did much to prevent general

¹ Zahn, *Arbeiterversicherung und Armenwesen in Deutschland*, Archiv für Sozialwissenschaft und Sozialpolitik, Band 35, pp. 418-486.

² Rudolph Wissell, *Arbeiterversicherung und Armenpflege*. Sozialistische Monatshefte, vol. xvii, pp. 308, 318.

³ u. Zwiedineck-Südhorst, *Hat die deutsche Sozialversicherung die in sie gesetzten Erwartungen erfüllt?* Zeitschrift für die gesamte Versicherungswissenschaft, 1913, pp. 273-290.

⁴ Alfons Fischer, *Vermisste Folgen der deutschen Sozialversicherung*; Jahrbücher für Nationaleconomie, Band 46, 1913, pp. 577-602; and by the same writer, *Einfluss der sozialen Gesetzgebung auf Verhütung, Erkennung und Verlauf der Krankheiten, "Krankheit und Soziale Lage."* München, 1913, pp. 787-840.

⁵ Paul Kaufmann, *Schadenverhütendes Wirken in der deutschen Arbeiterversicherung*. Berlin, 1913, p. 151.

⁶ *Licht und Schatten bei der deutschen Arbeiterversicherung*, Berlin, 1913, p. 18.

acceptance of the latter's conclusions. The present work is an excellent summary of the contributions of social insurance in Germany to public health, and includes discussion of many of the recent problems of insurance administration. Its possibly too laudatory tone makes it serve well as an optimistic antidote to Bernhard's pessimism.

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NOTES AND MEMORANDA

THE GERMAN POTASH LAW OF 1910

IN my article on the Potash Industry,¹ published in the November issue of this Journal, some passages may be liable to misunderstanding, and call for a word of explanation. They refer to the controversy between the Prussian government and the American potash buyers concerning the potash law of 1910. It is beyond question true that this law, tho in its terms not discriminatory against the individuals of any nation, nevertheless in fact discriminated against American purchasers, and was designed to discriminate against them. By its wording the law applied to all German potash mines which produced amounts beyond a certain specified allotment; hence technically it would not appear to be discriminatory. But the American potash purchasers held contracts with the only mines which were liable for the supertax imposed by the law on any production in excess of the specified allotments. Moreover, these contracts had been made in such terms as to render them susceptible of a construction whereby American purchasers would be made liable for the payment of this extremely heavy supertax. In other words, not the owners of the German mines, but the American purchasers from them, were the persons threatened by the measure, and meant to be threatened. Certain it is that the result of this combination of circumstances was decidedly unfavorable to American buyers, and to all intents and purposes amounted to discrimination against them.

Whether the administration of President Taft would have been justified under these circumstances in exercising the retaliatory powers given by the tariff act of 1909 is a question of political expediency on which I should hesitate to give an

¹ See page 177 of the November issue.

opinion. Matters of this sort lie outside the economic problems with which my discussion was concerned.

The immediate occasion of the potash law of 1910 was thus the wish to get rid of the American contracts just referred to. Yet the events of previous years had paved the way for drastic control of the industry. The German government had played a large part in the history of the potash industry from its inception; there had been agitation in 1905 for a state potash monopoly; previous measures, such as the Gamp law of 1905 and the mining law of 1907, had failed signally to bring the relief desired for the industry; this bill itself had been under discussion from February until May 1910, — all these circumstances indicate that the German government had long been determined to keep in its hands full control of the industry and of the prices of the products.

That the law has not secured all the ends desired by the German government, and in particular has not prevented an increase in the number of mines and in their output, is now admitted. Neither can it be said to be a measure for conservation, except in the sense that the German government wishes to retain for itself and its subjects the benefits of a natural monopoly of supply. German potash supplies are virtually inexhaustible, and the law of 1910 was neither necessary for conserving them nor designed for that end. It was a tactical manoeuvre directed against the American purchasers, and successful against them because of the unwillingness of the American government to exercise a vigorous influence in their behalf.

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PUBLIC OWNERSHIP OF TELEGRAPHS AND
TELEPHONES

THE report entitled, Government Ownership of Electrical Means of Communication, prepared by a committee of the Post Office Department and transmitted to Congress by the Postmaster General in response to a Senate Resolution of January 12, 1914, contains the evidence upon which the Postmaster General based his recent declaration that the policy of government ownership of telegraphs and telephones should be adopted in the United States.¹ Congressman David J. Lewis of Maryland, a leading advocate of government ownership of telegraphs and telephones, founds his case for public ownership largely upon evidence of a similar character to that contained in this report.² The American Telephone and Telegraph Company, on the other hand, challenges the validity of much of this evidence.³ The importance of the subject, as well as the conspicuous position of the parties concerned, warrant a brief examination of this evidence and of its significance for the problem of public ownership.

The Post Office departmental report consists in the main of a statistical comparison of postal, telegraph, and telephone services and rates in the United States and abroad. The postal service everywhere is in the hands of the government; the telegraphs are government enterprises in every important country except the United States; and the telephones are administered as a part of the governmental telegraph monopoly in almost every important country except the United States. With respect to postal development as measured by the number of letters received *per capita per annum*, the United States leads all the rest. With respect to telephone

¹ See Annual Report of the Postmaster General for the fiscal year 1913.

² See Congressional Record, December 22, 1913, and January 17, 1914.

³ American Telephone and Telegraph Company, Commercial Engineer's Office, Commercial Bulletin No. 7, March 2, 1914.

development as measured by the number of local calls *per capita*, or by the number of instruments in use, the United States leads all the rest. With respect to telegraph development as measured by telegrams received, the United States is surpassed by eight other countries, and by one of them, New Zealand, in the proportion of eight to one. From these statistics the Postmaster General infers that private ownership of telegraphs in the United States has been less efficient, as compared with other countries, than public ownership of the postal service, and that consequently the American people might expect a more efficient telegraph service through the "postalization" of the telegraphs. Congressman Lewis draws the same conclusion from similar statistical evidence.

By another statistical comparison the Post Office departmental report shows that the number of telephone calls per employee in the United States is low as compared with many important foreign countries, whilst on the other hand, the number of pieces of mail handled per postal employee in the United States is high as compared with foreign countries. From this comparison the inference is drawn that the telephone systems of the United States as well as the telegraphs are inefficiently managed, compared with the governmental telephone systems of foreign countries, or with the postal system of the United States. By other statistical comparisons the Post Office departmental report indicates that telegraph and telephone rates in the United States under private ownership are higher than abroad under public ownership, whilst postal rates are substantially the same. Consequently, it is inferred that "postalization" of the telegraphs and telephones in the United States would bring about lower rates as well as a more extended service than is now the case. In short, the Postmaster General concludes that the cheapest and most popular service can be expected only under public ownership. Congressman Lewis draws the same conclusions.

The American Telephone and Telegraph Company is equally positive in its assertions to the contrary. It denies

that the institutional inefficiency either of the American telegraph service or of the telephone can be demonstrated by such statistical comparisons as are employed by the Postmaster General. On the contrary, it contends, the institutional efficiency of both services is "clearly superior to that of any governmental system." The low comparative development of telegraphs in the United States, in its opinion, is explained by the "greater efficiency and distribution of the telephone."¹ The greater efficiency of the American telephone system becomes obvious, in the opinion of the telephone company, when one compares the actual services rendered by the telephone in the United States, with those rendered by the telephone under government ownership abroad. Telephone rates, both local and long-distance, are lower, when consideration is taken of the differences in the character of the service and in the value of money in the United States and abroad. In short, the company claims that both telegraph and telephone rates are actually lower in this country, and that the service, considered as a whole, is more widely extended than anywhere else on earth. In the few countries where the telegraph development, taken alone, is greater than in the United States, the superior foreign development is easily explained by circumstances which reflect no credit on governmental ownership as compared with private ownership in the United States.

Thus the controversy over the comparative merits of government and private ownership becomes a controversy over the comparative merits of government and private statistics.

It must be confessed that the Postmaster General's statistics leave much to be desired. Comparisons of the number of telegrams received or of the number of local or long-distance telephone calls *per capita* are misleading, unless it also appears that the service rendered by the average message or call is substantially the same. This does not appear from the Postmaster General's comparison. Comparisons of tele-

¹ See Annual Report of the American Telephone and Telegraph Company for 1913, p. 8.

graph and telephone rates likewise depend for their validity upon proof of the substantial identity of the services for which the rates are charged. Moreover, comparisons of rates are inconclusive, unless account is taken of the comparative value of money in the various countries, and of the various degrees of profitableness of the systems compared. If, as in fact is generally the case, a government telegraph system is unprofitable, the amount of the deficit must be distributed over the traffic in order to estimate the true cost to the public of the service rendered. Statistical comparisons designed to reveal the comparative efficiency of different telegraph or telephone systems are especially liable to misinterpretation. A comparison of the number of messages delivered per employee by the telegraph administrations of different countries may indicate that those countries with a low ratio of messages delivered per employee possess a comparatively inefficient service; but it may also indicate that the service is comparatively widespread. A wide extension of an efficient service into places with comparatively little traffic — a highly commendable situation, one would think — will yield a low ratio just as the maintenance of an inefficient service exclusively in the larger business centers will yield a high ratio.

These criticisms of the Postmaster General's statistics do not warrant one's jumping to the conclusion that his figures, revised in the light of fuller and more exact information, would prove the superiority of private ownership. So far as concerns the Postmaster General's case for public ownership, they warrant nothing more than the bringing in of a Scotch verdict, not proven. A judicious man, like the author of the telephone company's *Commercial Bulletin No. 7*, will use statistics, not for the purpose of proving much by them, but to save himself from having unproved conclusions foisted upon him by others.

The objection to the statistical evidence presented in the Post Office departmental reports is not the difficulty of drawing from it some valid and trustworthy conclusions, — tho that difficulty is real enough. The serious objection lies

in the fact that such statistical comparisons are likely to prove altogether too much. A comparison, for example, of telephone development in Iowa with that in Mississippi will furnish the same evidence of disparity with respect to efficiency as is afforded by the Postmaster General's comparisons in the case of the United States as a whole and Europe.¹ In the cotton belt, however, private enterprise has enjoyed the same freedom as in the corn belt. If the development of the service in the former has lagged behind that in the latter, the explanation must be sought in circumstances wholly unrelated to the question of government versus private ownership. In fact, the physical, economic, and social conditions are very different in Iowa from what they are in Mississippi, and differences in the development of the means of communication inevitably ensue. This is true, not only of the telegraph and telephone, but of all the means of communication, and, indeed, of labor-saving devices generally. One would expect to find in Iowa, not only more telephones than in Mississippi, but also more automobiles, type-writers, cash-registers, steam shovels, and fountain-pens. The same holds of a comparison between the United States as a whole and Europe. The question of government versus private ownership certainly has little relation to these differences.

The Postmaster General, in his attempt to prove the desirability of the "postalization" of the telegraphs and telephones, has barked up the wrong tree. The American public will never be convinced of the superiority of government ownership by statistical comparisons. Whether or not government ownership will "pay" in this country, depends partly upon the price which must be given in order to acquire the existing telegraph and telephone properties, but in the long run mainly upon the character of the organization which will be provided under government ownership for the conduct of the business. The Postmaster General who would win the confidence of the public for a proposal to "postalize" the telegraph and telephone, must produce, not

¹ See Census Bulletins on Telegraphs and Telephones in the United States, 1902 and 1907.

statistics, but a *plan* for the conduct of the business, which will hold out the promise of more economical and more efficient operation than is now the case. The Post Office departmental report contains no intimation of the present existence of such a plan; nor, on the other hand, does the telephone company's Bulletin furnish grounds for the presumption that such a plan could not be devised.

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THE DEVELOPMENT OF ALASKA BY GOVERNMENT RAILROADS

THE recent act (March 12, 1914) authorizing the President to construct a thousand miles of railroad in Alaska has again directed public attention to this little-known and, therefore, much misunderstood and much neglected Territory. Alaska has been pictured, on the one hand, as a barren polar waste valuable only to the gold and fur seeker, and, on the other, as a veritable eden with almost unlimited resources. Hence there has been much confusion of counsel as to our proper attitude toward it.

In spite of many legislative errors of omission and commission this northern colony has prospered. Its population of sixty-four thousand souls, less than forty thousand of whom are whites, purchased in 1913 domestic goods to the value of \$21,097,000 together with some half a million dollars of foreign imports. They sent in return minerals and fishery products, aggregating over \$36,000,000. In the forty-five years since its acquisition Alaska has produced minerals, including gold, copper, silver, and marble worth \$250,000,000, fish to the value of \$163,000,000, and these, with furs and the like, have brought the total value of the exports to half a billion dollars. The United States has expended for Alaska,

including federal courts, Territorial officials, roads, as well as the original purchase price, about \$38,000,000, and has received in cash from seal islands, customs, public lands, direct taxes about \$18,000,000.

Alaska's industrial progress, unlike that of most new lands, has been made with but little government aid to the improvement of means of communication. A coast line exceeding 22,000 miles in length is but inadequately charted and but ill provided with aids to navigation. Cable lines and radio stations are, indeed, better provided. Government aid to inland communication consists of less than 1,000 miles of wagon roads and half as much again of trails, a partially completed canal for river steamers near St. Michael's Island, about 850 miles of telegraph lines, and five radio stations, together with surveys of the principal routes of travel. Be it remembered that up to 1912 Alaska was a district without any local government except in the incorporated towns, and hence perforce had to rely for assistance on the federal government.

Under these conditions but little industrial progress could have been made were it not for the fact that the physical features of Alaska favor transportation. Its southerly seaboard, presenting a front of over 2,400 miles to the Pacific, abounds in good natural harbors, and all these, except the head of Cook Inlet, are ice-free throughout the year. A series of high ranges skirting the Pacific, indeed, forms a serious barrier to inland travel, but these mountains are broken by several transverse valleys and passes giving access to the interior. Beyond this mountain system is an area of lesser relief, a rolling upland with many broad valleys, offering no physical obstacles to lines of communication. This inland province is drained to Bering Sea by the great Yukon and Kuskokwin rivers which, with their tributaries, afford some five thousand miles of water navigable to river steamers. The northern part of Bering Sea is, however, closed by ice from November to June, and the rivers are frozen from October to June; hence this route of communication is available less than one-third of the year.

To reach Fairbanks, the industrial center of the Yukon basin, by the usual freight route, an ocean journey of 2,700 miles and an upstream steamboat trip of 1,200 miles is necessary. This transportation has to be crowded into three summer months, and the freight is from a month to six weeks in transit. Transportation charges are necessarily high and, in fact, are almost prohibitive to any industry except that of recovering placer gold from very rich deposits. Moreover, the cost of this water transportation is for many mining enterprises but part of the charge, for it is often exceeded by the cost of land transportation from head of steamboat navigation. It is not uncommon to find mining carried on where the transportation charge on all supplies and equipment exceeds \$400 a ton. It has been estimated¹ that the transportation charge in 1909 for every white man, woman, and child living in the placer districts of Alaska was about \$350 and that the total was about equal to half the value of the entire gold output of the year — the only product exported except a few furs. Freight rates are, however, somewhat lower at present.

Most of the improvement in means of communication is due entirely to private enterprise. Ocean and river steamship service needs no special description. Telephone lines have been built in all the important mining districts. Some wagon road and trail construction is also to be credited to private imitation or community effort. Above all, some 466 miles of railroad have been built. The history of railroad construction here needs special consideration.

It was the Klondike gold discovery of 1896 that gave the first impetus to railway construction in Alaska. The horde of gold seekers that swarmed through the passes of the Coast Range in 1897 and 1898 transported their supplies by sleds and on their backs. It is estimated that by this primitive means upwards of 30,000 tons of freight were carried inland, at a cost, allowing fair wages for the labor, of probably \$15,000,000 to \$16,000,000. About an equal amount of

¹ Brooks, Alfred H., *The mining industry (Alaska)*, 1909, U. S. Geol. Survey Bull., 442, pp. 26-27, 1910.

freight was sent into the interior by steamers up the Yukon. These conditions and the world-wide excitement caused by the Klondike stampede naturally led to plans for railways. While many lines were considered, the plan took most concrete form along the routes traveled by most of the gold seekers from head of Lynn Canal to navigable waters on the Yukon. Therefore, in 1898, a railroad route was surveyed from Skagway to the Yukon over the White Pass. This line, the White Pass and Yukon, only twenty miles of which is in Alaska, followed the natural law of all pioneer railroads, that is, to connect routes of water transportation. Construction on the White Pass route was carried on rapidly, so that by 1899 it had already crossed the summit of White Pass, 20 miles from the coast, and almost as soon as any track was laid did a lucrative business in handling freight and passengers. By 1901, 110 miles of this narrow gauge railroad had been completed, and this, in connection with steamboat service on the Yukon, formed a through route of communication with the interior. This is still the only railroad communication with the Yukon.

Meanwhile, many other railroads had been projected, among which were several lines from Valdez, the most northerly open port on the Pacific, and one from Seward, a harbor 140 miles to the southwest. Most of these were planned as trunk lines into the interior. Construction began on Seward line in 1902, and about the same time work was begun on one or more lines from Valdez. An ineffectual attempt was made in 1906 to obtain legislation at Washington for exclusive rights, grants, and subsidies. The only action by Congress on Alaska railroads was the act of 1898, granting rights of way, and one of 1900, imposing an annual tax of \$100 a mile on all operating railroads.

About this time a strong aggregation of capital took hold of one of the Valdez railroad projects, but later abandoned this route for Katalla, lying east of the mouth of the Copper, where a harbor had to be constructed. A year later, this too was abandoned, and a terminal at Cordova, on the east side of Prince William Sound, was chosen and a railroad projected

up the Copper Valley under the name Copper River & Northwestern. This line, which is standard gauge, was completed to the Bonanza copper mine, 198 miles from the coast, in 1911, and is so located as to serve an extensive copper-bearing district. At Chitina, 132 miles from the coast, the line bends to the eastward, leaving the main route into the interior. Near mile 38 it passes within forty miles of the Bering River coal field.

The Alaska Northern Railroad, the other standard gauge line projected as a trans-Alaska route, was completed from Seward to mile 71 in 1907, went into bankruptcy without having reached its immediate objective point, the Matanuska coal field, 115 miles beyond its present terminus.

In addition to these, several small railroads have been built to serve local needs. The longest of these is the Tanana Valley Railroad, narrow gauge, and 45 miles in length, which serves the Fairbanks gold district. In all, 466 miles of railroad have been built, but these are distributed through nine different systems. In 1913, 266 miles of this total trackage were operated as common carriers and all of these probably without profit and in most cases at an actual loss.

The outlook for the future is by no means as discouraging as the above facts would seem to indicate. Most of the railroads above described are but incomplete stubs that have not reached the possible sources of traffic. Moreover, unlike the pioneer railroads of nearly all new lands, those of Alaska have met with taxes instead of subsidies and land grants, stringent regulations instead of encouragement. The annual tax of \$100 a mile is much less than the lowest in the States, but a serious matter for a pioneer line with heavy expenses and small traffic. There is also the warehouse tax of ten cents a ton on all freight, which is at least an additional discouragement. Probably all Alaska railroad corporations would welcome conditions by which they would be subject to the general corporation tax on net profits.

More serious than the taxes is the question of coal. As the coal land controversy has not yet been settled, no coal has been mined, which has forced the railroads to import Cana-

dian coal at high cost, and they have also failed to obtain the coal tonnage on which their projectors had counted. Meanwhile, the general use of fuel oil on the Pacific has so greatly curtailed the market for Alaska coal that even were the fields now open the tonnage of coal would not be as great as was reasonably expected ten years ago when these railways were first projected.

The above reasons will account for the fact that, up to the present time, railroad construction in Alaska has not been a financial success. If the projects were considered in detail, reasons for some failure might be found in matters of policy and management, but these, of course, go beyond the purpose of this writing. It then becomes pertinent to inquire whether there is any economic justification for further railway building.

The statement has frequently been made that Alaska is an unknown land, and that the great resources used as an argument for railway construction are largely figments of the imagination. Such statements are not based on fact. For a generation the prospector has searched the wilds of Alaska for mineral wealth and has met with substantial reward. For half that time the federal government has investigated the mineral resources of the Territory. Today the mining industry of Alaska gives employment to upwards of ten thousand men.

Alaska coal fields are undeveloped, but that is not due to lack of either quality or quantity of fuel. The high-grade steaming and coking coals of the Territory are unequalled by any on the Pacific slope of the continent. Some of them are, indeed, badly crushed and expensive to mine, yet even these will and must be drawn upon for the needs of the rapidly growing population of the west coast states. The most conservative estimate made of these high-grade coals indicates a billion tons of available fuel. There are also in Alaska enormous deposits of lignitic coal valuable for local use.

Besides those on the coast there are at least two important inland copper districts, from one of which commercial shipments have been made. Copper has also been found in other

inland districts. There are, of course, no data upon which any quantitative estimates of the amount of copper can be made.

Auriferous mineralization is widely distributed over Alaska, indeed occurring in an area comparable in size to any gold-bearing region of the continent. While the richest of the known placers approach exhaustion, there are still enormous deposits of gold-bearing gravel that need but cheaper transportation to throw them open to profitable exploitation. Auriferous lode deposits are also widely distributed.

Iron ores have been found in the coastal region, but are little known. It is not impossible that these, with the nearby coking coals, may lead to a smelting industry. Of other mineral wealth it is not necessary to speak except to mention the fact that silver, lead, petroleum, marble, gypsum, and tin have been produced in commercial quantities.

No fact in regard to Alaska has met with greater incredulity than has the statement of extensive areas of agricultural land within the Territory. The evidence of cattle-raising in southwestern Alaska since the Russian days, the many prosperous ranches in the Tanana Valley, the repeated wintering of stock without feeding in the upper Yukon Valley, and above all the eighteen years of agricultural experimentation on the part of the government in the Territory have been ignored. The frozen subsoil, cold winters, and the latitudinal position of the Territory have been cited as conclusive arguments against all kinds of agriculture. Such arguments ignore the fact that the same conditions prevail and have been successfully met in other parts of the world.

The fact is that the hardier grains, potatoes, vegetables, and hay have been successfully raised in many parts of the inland region. There are also luxuriant summer pastures in Alaska; but the winter pastures are limited to the upper Yukon basin. It is conservative to estimate the agricultural areas at 30,000 square miles, about two-thirds of which would be tributary to the proposed railroads, and in addition to the areas of pasture. It is not impossible that Alaska will eventually be drawn upon for a food supply for other lands, but this only

when increasing population has utilized the more fertile parts of the earth's surface. Meanwhile, given transportation, Alaska can and will supply an important part of the food of its own population that will for the present be attracted by the mineral wealth and fisheries.

The tremendous area of reindeer pastures, sufficient for millions of animals, is also a latent source of food not to be ignored. How soon it may be necessary to draw on this cannot be forecast, but that these northern tundras must eventually be utilized as a source of meat cannot be doubted.

Of commercial timber there is little in Alaska. The inland woodlands will furnish some structural material, but the best of it is but of an inferior grade. At present, in the absence of any use of the abundant supply of lignitic coal the scant forests are being rapidly devastated for use as fuel. In south-east Alaska coast region there is some excellent timber and a larger supply of pulp wood.

The fisheries are, of course, not a prospective source of railroad tonnage. They will, however, attract a population, increase the local market for food stuffs and mineral fuels, and above all cheapen ocean freight rates by giving a return cargo for north-bound vessels.

To summarize the resources: Alaska contains abundant mineral wealth and large areas of lands that can now be utilized for agriculture and grazing to supply a local market. Its reindeer pastures are a prospective source of food. Commercial timber and pulp wood occur only on the coast. The fisheries are one of the most valuable assets but affect railroad building only indirectly.

Alaska has so often been pictured as a polar region that a word about climate seems necessary. Polar climatic conditions prevail only in the northern third of the territory and this region does not enter into the present discussion. The climate of Pacific Seaboard is temperate, while that of the inland region is specially healthful. Only on the seaward slope of the coastal mountains is the snowfall heavy enough to impede railroad traffic. The extreme cold which prevails in winter beyond the coastal mountains is no more severe

than in many populated regions of the globe, and will be no barrier to permanent settlement by the white race.

The above generalization on resources, while bearing on the matter of railroad construction, does not answer the important question of visible tonnage. This matter was carefully considered by the Alaska Railroad Commission.¹ Its recommendations of a road to Fairbanks, and estimates of operation costs, are based on a traffic of only 45,000 tons, which is less than twice the average tonnage of five years. No account was taken of any possible outgoing freight, and the local freight, including coal, was estimated on a very conservative basis. Similar conservative estimates were used in regard to traffic over the other railroads recommended by the Commission. Experience has shown that the passenger traffic on Alaskan railroads is all out of proportion to freight movement, so that more liberal estimates were made of the income from this source. It was estimated that on a basis of a charge of six cents per passenger mile, and freight at 5.49 cents per ton mile, with money for construction at three per cent, the road to Fairbanks would pay operating expenses on the basis of the above traffic.² It will not be necessary to analyze the report of the Commission further, as this will indicate that even using the most conservative estimate of traffic the railroad should be operated without loss. If, however, the roads were financed by private capital, calling for at least 6 per cent interest, expenses could only be met by so high a freight rate as to prohibit any large commercial development. This will indicate why Government aid is required for a trans-Alaskan railroad.

But little of Alaska land has passed into private ownership, hence a policy is justified which is based on the fact that the Government is a great land holder in the Territory. Under the old policy, now happily abandoned, these lands would in part have been granted to private corporations which, by

¹ *Railway Routes in Alaska*, Doc. No. 1346, House of Rep., 62d Congress, 3d Session. Parts I and II, Washington, 1913.

² The Commission recommended 733 miles of railroad and estimated the cost of construction and equipment at \$48,440 a mile. The estimated cost of the cheapest line recommended is \$42,500 a mile and of the most expensive \$52,300.

railway construction, in turn would make the latent wealth of these and others available. This policy having been abandoned, the only alternative is for the government to furnish the transportation. Without railways the land is valueless; with them it becomes an asset of importance. It was probably these more purely commercial considerations, as much as the opportunity to furnish a new field of activity to our people, that led to the enactment of the law providing for government railroads in Alaska. A further argument lies in the general acceptance of the principle of leasing the mineral fuels in the public lands rather than selling them. A government railroad is almost a necessary corollary of leasing mineral lands in an undeveloped field.

To turn to the act itself.¹ It provides, essentially, for a railroad or railroads in Alaska, not exceeding 1,000 miles, to connect open ports on the Pacific with the inland waterways, and coal fields over such route or routes as the President may choose. The proposed railroad or railroads may be leased for a term not exceeding twenty years, or may be operated by the government as common carriers. Existing railroads that connect with the proposed line may be either purchased by condemnation, at a price not exceeding their actual physical value, or traffic agreements may be made with such lines. Unlimited authority is given the President as to the organization of the work. He may detail officers from the Engineer Corps of the Army or Navy to the work, or carry it on solely by civilians. The Panama Canal equipment may be utilized so far as is desirable. Provision is made for reserving rights of way through all lands to which patents are in future granted. The President is also authorized to withdraw and dispose of, under such methods as he may see fit, lands useful for town sites along the routes of the railroads. The cost is not to exceed \$35,000,000, and \$1,000,000 is appropriated to begin the work. A separate account is to be kept in the Treasury of all receipts from the proposed railroads as well as of sale of public lands and minerals.

¹ An act to authorize the President of the United States to locate, construct, and operate railroads in Alaska, and for other purposes; approved March 12, 1914.

Congress has recognized by the wording of this act that if the government is to enter upon the new field of railway construction and operation, there can be no hope of success unless the details of working out the plan of organization and execution is left to the Executive. The plan of making the latent wealth of this great territory available to the people is one of broad statesmanship. The act itself leaves little to be desired.

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RAILROAD OVER-CAPITALIZATION

SUMMARY

Over-capitalization in (1) construction, 602. — (2) Replacement of property as inviting stock-watering, 602. — Incompetence or fraud, 603. — The Rock Island and Boston & Maine affairs, 604. — (3) Division of an accumulated surplus, 606. — Indirect devices therefor, 607. — Magnitude of railway surpluses, 608. — Equitable interest of the public therein, 609. — The opposing views stated, 610. — The just intermediate opinion, 611. — The Massachusetts gas companies, 613. — Difficult to apply in practice, 614. — (4) Refunding as a concomitant of inflation, 616. — (5) Stock-watering incidental to consolidation, 617. — Financial advantage of mergers, 618. — The New Haven collapse, 619. — Connecticut trolley finance, 620. — The Rhode Island companies, 621. — The Boston & Maine road and the Westchester Co., 622. — (6) Reorganization and stock-watering, 624. — The Third Avenue Railroad case, 626. — Conclusion, 628.

OVER-CAPITALIZATION, which may be defined as an excessive issue of securities in proportion to the physical assets, seems to be associated dynamically with six phases of railroad finance. In other words, no fewer than six particular occasions present themselves as opportune for inflation of capital issues. These arise: in connection with construction; through replacement of property; by division of accumulated surplus; as a concomitant of refunding; as an incident of consolida-

tion; and, finally, as a feature of financial reorganization. The provision of entirely new capital directly affords opportunity, of course, for an undue issuance of shares or bonds. But this subject is so extended in its ramifications as to require treatment by itself. With this exception, it is believed that the above-stated scheme of classification comprehends practically all phases of over-capitalization.

(1) The importance of construction as inviting an over-issuance of securities is emphasized by the proposition pending in Congress to so enlarge the jurisdiction of the Interstate Commerce Commission as to include all operations and accounts of construction companies along with operating railroads. The need of wider authority has been brought to public attention by a number of recent scandals, particularly those of the St. Paul Pacific coast (Puget Sound) extension and of the St. Louis and San Francisco.¹ A large body of experience, dating from the earliest days of railroading, has clearly proven the imminence of financial excess in this connection. The persistence of these practices is well exemplified also, altho on a small scale, in a number of recent cases before the state railroad commissions.²

(2) The capitalization of expenditures for replacement of property which ought to have been paid for from income is probably one of the most common corporate errors of the time.³ Improper manipulation of betterment and maintenance accounts leads readily and immediately to the augmentation of capitalization with-

¹ These and a number of others are discussed *in extenso* by the author in the *Railway Age Gazette*, vol. lvi, 1914, pp. 1177 and 1225.

² *Nebraska Railway Commission*, 6th Ann. Rep., 1913, p. 255; and P. S. C., *Missouri*, vol. i, 1913, p. 141.

³ Cf. P. S. C., *New York*, 2d D., 1910, vol. i, p. 132.

out a corresponding investment of new funds. The intricacy of the subject is manifested by the case of the Kansas City Southern before the Supreme Court of the United States in 1913.¹ The company desired to pay for the entire cost of a much better re-location of a part of its main line from the proceeds of a bond issue, without any deduction whatsoever for the cost or value of the old bit of line which was abandoned. This was defended on the ground that operating expenses would be so substantially reduced in consequence of the re-location as to fully support the enhanced interest charges. Both the Interstate Commerce Commission and the Supreme Court held, however, that such action amounted virtually to the payment of dividends from capital. For, the argument continued, all dividends or interest upon the securities originally issued to pay for the old line, if continued, evidently imposed two burdens upon present earnings; those, namely, associated both with the original and with the new investment. The government also made the valid plea that it was really the first investment which alone made the second one possible. This the company denied, alleging that the reduced operating expenses would fully offset the larger fixed charges.²

The boundary line is indeed vague between mere neglect to differentiate income from capital, and downright deception of others in this regard. Expenditures may be capitalized, not for real betterments, but for pretended ones which ought to be paid for from earnings.

¹ 231 U. S. 423.

² Cf. Ripley, *Railroads: Rates and Regulation*, p. 67. In this connection an ingenious argument against the American practice of charging betterments to income account may be mentioned. It is to the effect that capital outlay is at least subject to a greater degree of publicity than revenue expenditure; and consequently that deceptive or speculative action is more likely to be thwarted. The argument naturally has no force under our present American régime of governmentally standardised accounting. See McDermott, *Railways*.

Real improvements may be paid for in excess of their actual value. Or, even worse, current expenses in the form of bills payable, wages and supplies may be met by issues of interest-bearing script. Floating debt may be allowed to accumulate in paying current expenses, while dividends which ought to have been cut off continue to be paid; and then this floating debt may be refunded into permanent securities. Is it not clear that in each instance, capitalization is expanded unduly in proportion to the actual worth of the property? Such things are usually done so as to disguise the facts. But however details may vary, the principle is fundamentally the same. The resources of the future are improperly exhausted for the benefit of the present.

Failure to charge replacement outgo to income rather than capital account has accompanied recently the financial distress of two important roads. Both affairs were deceptive in the extreme, — on the Rock Island wilfully and perhaps even fraudulently so, while on the Boston & Maine the mistaken policy seems to have been due rather to ignorance, neglect or inefficiency. The facts as to the Rock Island were brought to light in 1914 in connection with reorganization proceedings. After the management had issued a highly encouraging statement indicating a liberal upkeep of roadbed and equipment for 1913, an expert investigated the matter from another angle for the bondholders.¹ He reported a corporate starvation policy so extreme that about 20,000, — that is to say, one-half, — of the company's freight cars were worn out and should be retired at a cost for replacement of \$15,000,000; also that inadequate or, as it was termed, "deferred maintenance work" would necessitate another \$8,000,000 expenditure. These two items alone transformed a reported surplus of \$13,600,-

¹ Report by Vice-President McKenna, of the St. Paul, May, 1914.

000 for the preceding year into a profit and loss deficit of \$10,291,000. Obviously the only way to save the property was to capitalize this deficit at once by an assessment upon security holders. A similar experience, this, to the Atchison and the Baltimore & Ohio twenty years before, repeated almost word for word!

The complete collapse of the Boston & Maine Railroad in 1913 affords a second recent instance of the penalty imposed by years of self-deception in matters of replacement and depreciation.¹ Large sums which under the dictates of ordinary intelligence and prudence ought to have been invested in the property from earnings were for years diverted to the payment of excessive dividends, — not absolutely excessive in the sense of affording an unreasonable return on the capital, but relatively so, in the sense that they brought about a progressive impoverishment of the road. Such deceptive financiering need not necessarily be in the nature of a fraud upon stockholders, however great the losses which they may be called upon to bear through having innocently dissipated their capital thinking they were merely spending their income. Undoubtedly it has thriven in the past upon the pretended need of secrecy in the matter of accounts. From the public point of view, in the last analysis it invariably entails an undue burden of securities upon the shoulders of the community to be supported out of current earnings, while at the same time exposing patrons to the exasperation of a halting, unsafe and inadequate service. The primary lesson to be learned by railroad managements is that, not more than current earnings but at all times far less, should be distributed in the way of dividends. The moral for the public is that it must be prepared to countenance such rates as shall yield, not only regular normal rates of

¹ 27 I. C. C. Rep. 593; cf. p. 622, *infra*.

return upon capital but a substantial sum in addition to provide for future contingencies, especially the "costs of progress."¹

(3) Relief from the embarrassment of an exuberant surplus by means of extra cash or stock dividends is a simple operation. But corporate surpluses are by no means confined to ready cash, quick capital, or marketable assets. A profit and loss account merely evens up the difference between assets and liabilities on the balance sheet. A surplus seems substantial enough; but in reality it is a hazy and elusive thing. In the first place it depends entirely upon the particular valuation placed upon the assets. A stroke of the pen in writing off property account may serve to obliterate it entirely. But even if the valuation of assets be sound, the surplus may be a fictitious one. A large part of it, instead of being a cash fund or convertible securities, may be a mere statement of past earnings appropriated to a future use, and in the meantime inextricably entangled in the business. As thus invested it is subject to the same risk of obsolescence or depreciation as the rest of the plant. It may not even be property at all but merely reputation, built up by heavy expenditures for advertising and the like.² Such a surplus may indeed prove in time of trouble to be a weak reed instead of a staff. The Western Union when taken over by the American Telephone Company had its surplus of \$18,800,000 promptly written off by more than two-thirds. The Illinois Central, too, acted the part of prudence a few years ago in transferring its "dividend reserve fund" to profit and loss; perceiving that, altho theoretically

¹ P. 609, *infra*.

² Cf. the New Jersey cases authorising capitalisation of development expenses. P. S. C., 1912, p. 246.

such a fund might be drawn upon to eke out dividends, in fact it was a mere book statement not serviceable at all when needed. And the Missouri Pacific, upon emerging from unintelligent Gould management, found it wise to eliminate a lot of dead wood from its surplus account. Nevertheless, a surplus representing undistributed earnings over a term of years may sometimes under conservative administration attain large proportions. And it may well be that by the growth of assets in this way, the property has reached a condition of acute under-capitalization. The temptation under such circumstances to reimburse the treasury of the company for such uncanceled outlay, and thereby to reestablish an equivalence between assets and outstanding securities, may become at once irresistible and venial.

There are a number of ways by which undivided earnings may be capitalized, other than by means of either cash or stock dividends. The Villard administration of the Northern Pacific in 1888, just on the eve of bankruptcy, shifted accumulated charges of improvements to income through a number of years over to capital account; and an attempt was then made to sell securities in order to balance the books. But it failed to accomplish what the Alton management in 1898 so successfully performed for the benefit of "insiders." Under happier auspices the Union Pacific in 1914 seems about to distribute its surplus to common stockholders, in the form of a donation of \$82,000,000 of Baltimore and Ohio stock from its treasury, — stock which it had received in exchange for its speculative investments in the shares of other companies.¹ Ostensibly this "plum" was a distribution of profits not resulting from transportation at all but accruing from successful financial opera-

¹ Validated by N. Y. Court of Appeals decision, July 15, 1914, declaring that \$15,000,000 profit on conversion of stocks and \$38,000,000 on stock market operations in Northern Pacific, etc., were profits not capital.

tions since 1900. It would appear as if the public interest were not concerned, inasmuch as the outcome was a profitable one. But suppose the speculation had failed? Would not the road have been impoverished to that degree, with necessary deterioration of service? Nor is that all. Collateral trust bonds were originally issued to acquire many of these stocks. They were generally convertible, to be sure, so that fixed charges became largely transformed into contingent ones. But the fact is indisputable that this one-time indebtedness, now transmuted into capital stock,¹ remains outstanding as an absorbent of future earnings; altho the assets which it once served to purchase have been handed over to stockholders as a gratuity. That the surplus earnings from past years still undistributed, together with the increment in the value of tangible property, notably land, preserved an equivalence of assets and liabilities on the books even after the withdrawal of this huge bonus, obscures but does not alter the fact that the distribution is at bottom "affected with a public interest."

American railways have liberally utilized surplus earnings to build up their properties. The Pennsylvania Railroad for years adopted the "dollar for dollar" practice of devoting literally one-half of its income to reinvestment in the plant. During 1887-1911 the sum of \$262,000,000 was put back into the Pennsylvania lines east of Pittsburgh from earnings, — an amount, that is to say, nearly equal to two-thirds of the total cost of construction of its 2000 odd miles of line.² The Chicago & Northwestern in like manner during the twenty year period to 1913 so divided up its net income of \$200,800,000, that \$77,700,000 of this amount re-

¹ Even altho the dividend rate is reduced from 10 to 8 per cent coincidentally with the distribution of assets.

² 20 I. C. C. Rep. 243. Even during the decade to 1913, out of \$530,000,000 added to property investment, \$164,000,000 came from undistributed earnings.

maintained undistributed either in the form of direct appropriation from earnings for improvements, or of income carried to surplus account. In the South, the Louisville and Nashville in the eight years before 1907 put back into its plant over \$18,000,000 of undivided earnings — equal to over 30 per cent of its share capital. The total surplus thus built up in 1912 is said to have amounted to upwards of 90 per cent of its entire capital stock. The opinion in the Western Rate Advance case¹ of 1910 stated that the unappropriated surplus of all the railroads in the United States at that time amounted to \$800,642,923; of which \$606,500,000 had been accumulated in the ten years to 1909. Such facts are impressive. They certainly do not fairly represent recent tendencies, since 1909. Surpluses of this sort are not now being heaped up. But they indicate how important the question of the interest of the public in such surplus earnings may at times become.

The fact of the existence of substantial surpluses, arising partly as a result of our conservative American practice of putting a portion of earnings back into the property and partly as a result of the exceptionally rapid development of the country, naturally gives rise to the question as to how far the public has an equitable interest therein.² The rate-making aspect of the matter has already been considered in connection with physical valuation.³ The question in so far as it touches the regulation of capitalization must be approached somewhat differently.⁴ In practice the issue generally arises

¹ 20 I. C. C. Rep. 243.

² Well discussed by J. H. Gray, *The Economic Review*, vol. iv, supp., 1914, p. 36; by L. G. McPherson, *Railway Age Gazette*, vol. liv, 1913, p. 1118; and in Whitten, *Valuation of Public Service Corporations*, 1912, pp. 176-189.

³ *Political Science Quarterly*, xxii, p. 907, p. 599.

⁴ Various differences in principle regarding the determination of a reasonable basis for capitalization and for rate-making obtain. One depends upon local accounting practice and state regulation of capitalization; the other, most rates being interstate,

over the right of the railroad to distribute its surplus in stock or cash dividends. Two clearly defined and opposing views are discernible. The older and simpler one is that stockholders have an inalienable right to all earnings of the company; and that if they choose to permit a portion of current income to remain invested in the property, they in no wise forego thereby their right to take it over to themselves without interference at any future time. Such a view was well expressed by the management of the Great Northern when in 1883 it made an extra distribution in the shape of an issue of \$10,000,000 of bonds, "payable 10 per cent in cash and 90 per cent in property, constructed or acquired with stockholders' money, — thus returning to them \$9,000,000 in the nature of a forced loan taken from them by sequestration of \$11,000,000 of profits during previous years." In confirmation of this view, it deserves to be kept in mind that until a comparatively recent date, there was nothing in the charters of railways, in state constitutions, or in the law of public service callings, to indicate that investments by railways from earnings would be differently treated from investment by direct subscription of shareholders. This point has often been raised in connection with the inclusion of surplus earnings in the "fair value" of the property for rate-making purposes. To decline so to do might lead to absurd results. For otherwise, as between two railroads of different earning power, each pursuing the policy of reinvesting one-half its income in the plant,

is largely a Federal concern. The treatment of obsolescence or misplaced investment is also different. Market value may be a standard for capitalisation, but seldom for rates. Under physical valuation, cost of reproduction may be applied in rate-making, but original cost or investment should be used for capitalization, assuming that the increment of land valuations, as in Texas, is excluded. Most physical valuations and cases before administrative commissions have had to do with rate-making; but the Massachusetts Validation Commission of 1911, the Third Avenue Street Railway case in New York, and some judicial decisions are mainly concerned with sound capitalisation.

the more profitable one, altho it might upbuild its property hugely by comparison with the other, would not be permitted to enjoy the fruits of its self-denial in any corresponding degree. A penalty upon prudence and thrift would surely be imposed.

The other view, which upholds the claim of the public to substantial enjoyment of the surplus of public service corporations, has been freely expressed in recent rate cases. Oddly enough, judicial decisions throw little light upon it. The argument is well put by Whitten as follows:

If a company has charged rates, not alone adequate to pay a fair and reasonable profit to the stockholders, but also to permit the building out of earnings of extensions and improvements aggregating as much as the total investment of the security holders, there is some justice in the argument that unless this has been done for the benefit of the consumers it represents pure extortion. Profits in excess of a fair return should either be distributed to the consumer in lower rates, or if used for extensions and improvements, should be deemed to be held in trust for the exclusive benefit of the consumer.

Nor is this all that may be urged in the public behalf. To permit a railroad to capitalize its surplus earnings fully, it is said, and thereafter to permit it to enjoy a return upon this additional investment is, in fact, to permit the shareholders to have their cake and to eat it too;¹ or, in other words, to make the patron pay more in the future, and forever, because he had already paid an unreasonably high rate to create the surplus in the past.

Our own decision in the matter is intermediate between the two extremes of opinion above stated. In the first place, a just decision will depend upon circumstances, particularly upon the actual source of the surplus itself. An appreciable part of it may be due to the

¹ Precisely the line of reasoning in a Lehigh Valley rate case; 21 I. C. C. Rep. 160.

growth of land values.¹ In the Western Rate Advance case of 1910 the Burlington road claimed a total valuation of \$530,000,000 according to which its surplus amounted to \$272,000,000. The Commission found in turn that \$150,000,000 of this latter sum was due to the increment in real estate, while only \$122,000,000 represented property acquired out of earnings.² Another instance in the South is afforded by the Atlanta & West Point in Georgia. Reinvestment of all earnings in the plant for many years, but particularly the enhanced value of terminal property in Atlanta, seemed fully to warrant doubling the capital stock in 1910 and basing earnings and rates thereupon.³ An additional complication, of course, is that not infrequently there may have been large grants in aid of construction originally made for nothing. This must also be taken in account.⁴ An entirely different problem is presented by the surplus distributed by the Union Pacific in 1914, — a surplus resulting from successful speculation in the stocks of other railroads.

Decision should be made also in the light of the general conditions prevailing at the time. A generation ago it was the common practice to divide all profits in sight and to finance new construction by the issue of securities. Such policies were fully sanctioned by the public opinion of the day. But a few roads, undoubtedly well in advance of their time, during the '80s began to devote a good part of their earnings to new construction and betterment. Without outrage to public opinion much of this at that time might well have been added to dividends. The shareholders' rights in

¹ Cf. Whitten, *Valuation*, chap. vi.

² 20 I. C. C. Rep. 332.

³ Commissioner Clements in Hearings, I. C. C. Committee, 1912 on H. R. bill 12811, p. 8.

⁴ Ripley, *Railroad Valuation*, *Political Science Quarterly*, vol. xxii, 1907, p. 577.

such a surplus certainly deserve determination in the light of the then-prevalent practice. To apply the standards of the present day when pioneering chances have been supplanted by rate-regulatory risks, would be manifestly unfair. The dilemma is most puzzling in those instances where the source of the surplus has been exceptionally intelligent management, coupled with manifestly fair treatment to the public. Such an issue is presented, as we shall soon see, by certain Massachusetts gas company cases. The sharp differentiation of a surplus thus created, from surpluses arising through public donations or an increment in land values on the one hand, or an extortionate rate policy on the other, is sufficient to discourage loose generalization. In fine each case must be judged upon its own merits.

A sane treatment of property derived from surplus will be found in the policy of the Massachusetts Gas and Electric Light Commission. It is well expressed in the Haverhill Gas Co. case.¹ In this instance a public service company by exceptionally careful and conservative management, coupled with a rapid gain in wealth and population of the community supplied, accumulated a substantial surplus over and above the customary rate of 10 per cent dividends. This conservative policy was encouraged by the Commission on the ground that it insured steady dividends and also resulted in the highest efficiency at low cost. Such a use of surplus, it was held, conferred substantial benefit upon the public and the shareholders alike. It seemed particularly desirable in the '90s in view of the prospective keen competition of electric light with gas. Finally, however, the demand for a reduction of rates on one hand, and for capitalization of this surplus on the other,

¹ 16 Ann. Rep., 1901, p. 9. Cf. also address of F. E. Barker, Convention of R. R. Commissioners, 1913.

brought the matter squarely up for decision. The commission has consistently adhered to its view that by every principle of law such a surplus is the property of the corporation; but, at the same time, that there is imposed upon such a public monopoly "the duty to employ it for the joint advantage of the consumers and the corporation. It need not be dealt with as the exclusive property of either." Unfortunately this admirable theory has been difficult to apply in practice. After fifteen years of litigation, during which the Massachusetts courts have steadily upheld the theory of private property rights, the public in Haverhill has not yet succeeded in securing any reduction in the price of gas. The Supreme Court of the State in 1913, in the similar Fall River case, completely over-ruled the Commission. This body had sought to prevent further issues of stock for extensions while the company at the same time was regularly distributing its surplus in the shape of extra dividends over and above a regular rate of 12 per cent.¹ Such experience tends to confirm the view expressed by Commissioner Prouty ² as to the practical impossibility of making amends to those who have once paid excessive rates, by laying hold upon such surpluses. Supervision of capitalization, as of rates, must be continuous and fore-seeing, not spasmodic and tardy. Harm must be prevented. Once done, it cannot be corrected. But is the accumulation of a surplus to be regarded, indeed, as a menace? Is it not in fact just the opposite? We shall see.

Somewhat similar points have been recently considered by the Interstate Commerce Commission. In the Spokane case,³ counsel for the shippers contended that the ample surpluses of the Pacific railroads should

¹ Gray, *op. cit.*, p. 28.

² 15 I. C. C. Rep. 376, 415.

³ 15 I. C. C. Rep. 415.

in some way be distributed by the Commission, acting as a trustee for the public, through a reduction of rates. But it was pointed out in the decision that, under a uniform scheme of rates, one road by reason of cheaper construction or easier operation might pile up a surplus while the other did not. Could it then be said that this surplus had been improperly accumulated so long as its rates had been no higher than those of its competitors? Similarly in the Eastern Rate Advance case in 1911,¹ assent within certain limits was given to the accumulation of surplus in order to provide for necessary improvements which for the time being, or in their nature permanently, did not yield a return. Large investment of a non-productive sort such as passenger stations, the abolition of grade crossings or the installation of safety appliances, may properly be cared for in this way. But, the opinion added, stockholders must also contribute to such surpluses through a reasonable sacrifice in dividends. This was undoubtedly what the Railroad Securities Commission of 1911 had in mind in declaring that surpluses might most fairly be utilized to meet the necessary "costs of progress." An admirable policy, voluntarily adopted by a public service corporation, is that of the American Telephone and Telegraph Company.² The directorate set forth the advantages to the company of a large surplus as strengthening credit, assuring steady dividends, procuring new capital on favorable terms, and maintaining a high state of efficiency in operation at low cost. The promise was held forth that such reserves and betterment should not be made the basis in future of larger dividends, but should constitute a trust to be administered in the public interest. These reserves, it was hoped, were to remain as assets "indivisible, inviolable and inalienable," — not,

¹ 20 I. C. C. Rep. 243, 265.

² Ann. Rep., 1912.

in other words, at some future time to be divided up among the shareholders. Under such circumstances, the advantage to the public of large reserves, thus invested, is that reduced charges and improvement in service will naturally follow by reason of the economies in operation introduced.¹

(4) Refunding, as affording an opportunity for surreptitious inflation of the volume of outstanding securities, is of relative unimportance, judging by the experience of our public service commissions. Usually the operation merely perpetuates, it does not create, an undue volume of indebtedness, — allowance being made, of course, for changes in the prevailing rate of interest and the condition of investment demand.² The offence, if there were one, was usually committed at the time of the original issue. But the necessity of refunding sometimes affords an opportunity for the intervention of administrative authority to correct a previous over-capitalization in whole or in part. The hard-fought Delaware & Hudson case, outlined in our review of the New York experience,³ illustrates the manner in which the refunding of floating indebtedness may be critical in the larger affairs of consolidation of railroad properties. In Texas, refunding operations have been of peculiar interest. The Railroad Commission of that state interpreted the law, rigidly restraining all further issues of securities until capitalization had been brought down to the level of property valuation, as prohibiting even the refunding of existing bond issues.⁴ The matter became acute about 1905-06, when a large number of

¹ The theory of partnership in surplus is well stated by H. V. Hayes in *North American Review*, vol. cxviii, 1913, p. 341. Cf. also his *Public Utilities*, 1913.

² *Economic Review*, xix, Sept. 1914.

³ *Economic Review*, vol. xix, Sept., 1914.

⁴ *Economic Review*, vol. xix, Sept., 1914.

bonds of Texas roads reached maturity. The physical valuations applied by the Commission as a standard of measurement were generally well below the volume of bonds outstanding, to say nothing of the capital stocks; and revaluation was denied on the ground that accounts could readily be kept up to date by adding the yearly reinvestments of income to the original figure. If prohibited from refunding the maturing bonds, dollar for dollar, the roads would be unable to issue enough new ones to take up the old. Enabling legislation to mitigate the rigor of the law was urgently sought but in vain. The only escape for the roads was to issue new bonds to the full amount of their physical valuation and then to leave the balance as a floating debt. To the outsider, it appears as if this policy of excision were unduly severe. If, as in the Delaware and Hudson case, there was evident over-capitalization to be corrected, it seems as if the wiser plan would be to permit refunding, but to insist upon guarantees that the company would make amends within a reasonable time by a gradual process of amortization.¹

(5) Consolidation of railroad properties offers an exceptionally favorable opportunity to increase capitalization surreptitiously. The English practice of "splitting" securities had its beginnings in connection with merger operations. New classes of stocks known as preferred and deferred shares were put forth, each of them equal in volume to the total original stock outstanding.² A prime advantage of consolidation, of

¹ Certifications of refunding operations by other state commissions are given in the *Economic Review*, vol. xix, Sept., 1914. Even later ones approved by public authority will be found in the following cases: permitting the St. Paul to exchange \$470,000,000 of its own bonds for those of the St. Paul extension, P. S. C., Missouri, vol. i, 1913, p. 305; and prescribing the terms of exchange, discount, etc., of \$28,000,000 of Iron Mountain bonds, *ibid.*, p. 105.

² McDermott, *Railways*, p. 164.

course, is that the constituent companies may be so gerrymandered that successful ones with surplus earnings may average their rate of return downward by combination with other properties less favorably situated. A weak corporation, whose stock is quoted say at \$50, may be merged in a second corporation whose stock is worth \$150 per share. The latter may then issue new stock of its own in exchange for the \$50 stock, share for share. Such an operation as this may not only deceive the public, by establishing a fictitious capitalization far in excess of the worth of the investment, but it may also constitute a fraud upon the shareholders of the more prosperous company by diluting the value of their holdings. In ordinary offerings of new shares at favored prices, the stockholder finds compensation for the fall in the value of his shares in the bonus or "right" which he receives. But in these cases of consolidation, the bonuses or rights may go to the favored holders of shares in the weaker company alone. It is conceivable of course, that advantage may flow to both concerns from the merger, particularly through the extension of the credit of the stronger to enable the weaker one to make the expenditures necessary to bring about reduced operating costs. This has been done of late by parent roads outside Texas to subsidiaries therein, subject to the drastic limitations of the Stock and Bond law.¹

In Texas the details of all railroad mergers of this sort are most rigidly scrutinized, in order to prevent such an increased capitalization. Mere consolidation of roads in the Missouri, Kansas & Texas system in 1891, for example, increased the aggregate of stock and bonds

¹ The analogy with electric lighting properties is imperfect, inasmuch as the latter may concentrate all operation in the stronger plant, while in the case of railways both must still operate in their respective territories. *Economic Review*, xix, Sept., 1914.

by \$12,475,000, or \$19,207 per mile of road. This, it will be noted, was before the enactment of the Stock and Bond law.¹ Whether the public interest is prejudicially affected in such cases or not would seem to be dependent largely upon whether the companies absorbed were worth the price paid for them; or, in other words, whether efficiency and earning power were promoted in a degree suitably proportioned to the enhanced capitalization. And, even so, the expediency in the public interest of requiring amortization of the increase in capitalization, as required by the best modern practice, is obvious.²

All previous demonstrations of the evil of dilution of capitalization as a concomitant of consolidation are eclipsed by the recent prostration of the once substantial New York, New Haven and Hartford Railroad. Within nine years to 1912, the outstanding securities of this company increased from \$93,000,000 to \$417,000,000, altho the operated railroad mileage increased only fifty miles.³ Issues of new stocks and bonds during this period brought in about \$340,000,000. Of this sum, \$40,000,000 was spent for the purchase of lines previously operated under lease or otherwise indirectly. For betterments and equipment, \$96,000,000 was expended. This left a sum of about \$204,000,000 which in nine years was invested in properties outside its own

¹ Report of the Railroad Commission to the Governor on the subject of mergers, Nov. 5, 1904; reprinted in full in the *Dallas News* of Nov. 27, 1905.

² Cf. New York Public Service Commission practice, reviewed by the author in *Economic Review*, Sept., 1914.

³ Best outlined in 27 I. C. C. Rep. 581. Cf. also Report to the Joint Board on the Validation of Assets and Liabilities of the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge; published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51-154. [Known as the Validation Report.] Other details concerning steamship lines are given in the above I. C. C. report, supplemented by the further testimony taken in May, 1914; also Report U. S. Bureau of Corporations on Transportation by Water, pt. 4, 1913, p. 17. The second extended I. C. C. Rep. has just been issued (July, 1914); I. C. C. Rep. 31.

railroad sphere, — that is to say in trolley companies, steamship lines and even electric light and power plants. A tale of more reckless disregard of the interests of the public and of investors alike, — a more complete breakdown of service in the form of intolerable losses and delays and appalling accidents, — has never been spread upon the records. It is an involved affair in entirety. We must be content to outline it by territorial samples.

The Connecticut trolleys in the New Haven system were originally leased as the Connecticut Railway and Lighting Company. This aggregation of roads had been formed by the consolidation of nine smaller concerns in 1900. Bonds to the amount of \$9,350,000 and shares amounting to \$15,000,000, — a total of \$24,350,000, — were exchanged for a former combined capitalization of \$8,210,000, at the time of consolidation.¹ This flagrant over-capitalization was characteristic of the general situation in that state. The absence of rigid governmental oversight, outside of Massachusetts, created a striking contrast in this regard, to which attention will be called in another connection. Where the New Haven Railroad agreed by purchase and lease to support this inflated capitalization, the operation practically, of course, amounted to dilution of the value of its own securities to a corresponding degree. The Massachusetts Validation Commission in 1911 found that, even making no allowance whatever for depreciation, \$13,000,000 of a total par investment of \$40,000,000 of the New Haven railroad in these Connecticut trolleys represented no tangible value whatever. Still less, apparently, did it represent earning power.

The roundabout processes by which the New Haven obtained control of its trolley lines in Rhode Island may

¹ Report of Commission de Public Service Corporations, Connecticut, 1909, pp. 8-11; New York Evening Post, Nov. 23, 1912.

best be described by direct quotation from the report of the Interstate Commerce Commission.¹

"In 1902 the United Gas Improvement Company, generally understood to be an institution backed by Philadelphia capital, entered the trolley field in Rhode Island. A corporation known as the Rhode Island Company was organized which issued its capital stock in the sum of \$2,000,000 to the Improvement Company, receiving in return \$2,000,000 in cash. The Rhode Island Company thereupon leased three trolley lines, which embraced in the main all the lines in Providence, Pawtucket, and the immediate vicinity.

"The Improvement Company now proceeded to organize what was known as the Rhode Island Securities Company for the purpose of holding the stock of the Rhode Island Company. The Improvement Company turned over to the Securities Company the \$2,000,000 of stock in the Rhode Island Company and received therefor without any further consideration \$12,000,000 of the capital stock of the Securities Company and \$3,500,000 of its 4 per cent bonds. This resulted in the issue to the Improvement Company of \$15,500,000 of securities for \$2,000,000 in money.

"This was in 1902. In 1904 the New Haven began its campaign for the acquisition of the trolley lines of southern New England, and soon after purchased a block of the stock of the Rhode Island Company. In 1906 it perfected arrangements for the acquisition of the entire stock of that company. Instead, however, of purchasing that stock directly, it arranged to do it indirectly by taking over the Securities Company. What the New Haven did was to organize a third corporation, the Providence Securities Company, which exchanged its 4 per cent debentures guaranteed by the New Haven Company for the stock, bonds, and notes of the Rhode Island Securities Company substantially at par. There was a cash payment of \$10 per share by the stockholders of the Rhode Island Securities Company and an adjustment of \$3 per share against this on account of interest; there were certain bookkeeping entries one way and the other, but the upshot of the whole transaction was that the New Haven Company issued its obligations to the Improvement Company and others and received in exchange at substantially dollar for dollar these inflated securities of the Rhode Island Company.

"Representatives of the New Haven Company earnestly insisted that this company had not watered the stock of the Rhode Island Company, and this, strictly speaking, is true. The improvement Company turned in the water and the New Haven Company converted that water into wine. In whatever aspect the transaction is viewed the New Haven gave \$13,500,000 for nothing."

¹ 27 I. C. C. Rep. 581.

The net result of this operation was a total investment of about \$24,000,000, altho the state authorities subsequently estimated the property to be worth only about one-fourth of this figure.¹ Nor were the earnings of these Rhode Island trolleys, at any time, sufficient to justify the prices which the New Haven paid for them. The reckless expenditure, in order to secure monopoly control, simply saddled the New Haven treasury with a huge aggregate of inflated securities which did not begin to cover the cost of raising the funds for their purchase.

The \$13,500,000 given for nothing in the Rhode Island trolleys was well matched by the investment in the New York, Westchester & Boston Railway, — a four-track electric road, extending about twenty miles out from New York. This affords an instance of inflation, not only in connection with franchise purchase but also as a piece of original construction. Eight thousand shares of New Haven stock, worth \$1,200,000, were first exchanged for 24,000 Westchester shares, worth in the words of President Mellen "about ten cents a pound." Then about \$11,000,000 more was paid for \$5,000,000 invested in construction by the promoters, — this by command of J. P. Morgan without any adequate accounting even to the directors. All in all, to 1912 the New Haven invested \$35,000,000 in this enterprise; altho the value of tangible property, reported to the New York Public Service Commission, was only \$12,000,000. An annual deficit of \$1,250,000 still obtains.² While this was going on, the New Haven was also seeking the control of the Boston & Maine Railroad in order to consolidate its own transportation

¹ President Mellen himself on May 20, 1914 before the I. C. C. conceded that the price was twice their value.

² The Mass. Validation Report of 1911 accepted an inventory of \$12,300,000 for plant and estimated \$8,900,000, "for cost of the franchise, control of the situation, etc."

companies south of Boston with those of northern New England. The financial mechanism by which this was accomplished is described in another place. So far as inflation of capitalization is concerned, in order to elude the prohibitions of the legislature and the courts of Massachusetts, the Boston & Maine stock was for a brief period in 1908-09 sequestered in the hands of one J. L. Billard. To him the stock was sold at \$125 per share, within a few months to be once more returned to the New Haven company at \$150 per share. "Upon the face of the transaction, therefore, Mr. Billard made, without the investment of a dollar in excess of all expenditures by him, slightly over \$2,700,000 as a result of this transaction."¹ Moreover, the objection that this unearned paper profit was not an actual one, because the final payment was not in cash but in notes, was met by the significant fact that the notes given in connection with the final transfer were guaranteed as to face value by the New Haven Railroad Company. Upon the record, therefore, the cost to the New Haven company of these profitless transactions was almost \$3,000,000, — a sum which, of course, was a part of the large amount which had to be raised by the issue of securities by the parent road.

Other minor instances of inflation under the Mellen administration may be mentioned in passing. Without any substantial new investment, the capitalization of the Portland Union Station Company was run up from \$350,000 to almost \$6,000,000 with entailed fixed charges of \$180,000 a year. Even after public opinion had become thoroly bent upon subjecting the New Haven to control, the Western Trolley Merger bill was jammed through the Massachusetts legislature in 1913 as

¹ 27 I. C. C. Rep. 584. Corroborated by testimony of Billard, May 7, and of Mellen, May 17, 1914, further elaborated in 31 I. C. C. Rep. 31.

the price of acquiescence by the railroad in the creation of a Public Service Commission. This permitted the acquisition of the stock of three voluntary associations which as holding companies controlled the trolley lines in western Massachusetts. This opened the door to the capitalization of \$22,398,000 of floating debt, premiums on stock and other items, without let or hindrance by public authority.¹

In conclusion, the Interstate Commerce Commission made it clear as a result of its elaborate investigation, that if the New Haven had confined itself exclusively to the operation of its railroad property, it would have had for the fiscal year 1912 a surplus of \$1,794,000 over and above eight per cent dividends upon its stock, instead of a deficit of nearly \$1,000,000. Matters went from bad to worse subsequent to this time. Shareholders with dismay witnessed a decline in the market price of New Haven stock from about \$185 in 1905 to less than \$50 per share in 1914. Dividends, after years of uninterrupted payment, had to be suspended during a wearisome period of recuperation. The dismal chapter seems about to be closed in 1914 by the resolution of the system into its component parts under compulsion from the Federal Department of Justice. The interest of the public appears in the fact that under other circumstances the railroad might conceivably have continued to furnish a safe and adequate service without further advance in its rates, and fares and yet at the same time have returned to its stockholders a fair dividend upon their investment.

(6) Financial reorganization offers a fruitful field for an increase of capitalization, irrespective of assets, whether for railroads or industrial corporations. Occa-

¹ *Ann. Rep., Mass. Railroad com., 1912, pp. 167-175.*

sionally a company succeeds in emerging therefrom with the same volume of outstanding securities with which it went into bankruptcy. By far the larger number come forth saddled with heavier issues than ever before. Even more impressive is the volume of securities by comparison with the assets. Almost never does any real excision under reorganization take place.¹ All this is, of course, highly paradoxical, inasmuch as it was the overload of stocks and bonds which brought on the trouble, — an overload so disproportionate to the earning power of the property that its back broke under the burden. But the explanation is not far to seek.² It is never the total capitalization of a company which is the source of danger. The volume of capital stock is immaterial. It is the fixed charges upon indebtedness to which the road succumbs. Some way must be discovered under reorganization by which the old bondholders may be induced to forego their right of foreclosure. This almost always happens through offering them securities in exchange like income bonds or preferred stock, contingent upon earnings for their support. But the consent of bondholders to such substitution is in any event difficult to obtain. The most inviting speculative bonuses, even in the form of a modicum of common stock, must be dangled before their eyes in order to obtain consent for the substitution. This is what is even now occurring in the pending reorganizations of the Wabash, the Rock Island, and the "Frisco," not to mention several minor roads.

It is a difficult and yet an important matter to control reorganization in the interest, not of particular classes of security holders but of the company as a whole and

¹ Simon Sterne, *Forum*, vol. x, p. 37; vol. xvii, p. 19.

² For a full discussion, I refer to my forthcoming volume on *Railroad Finance and Organisation*.

the public to be served. Otherwise the readjustment may only make bad matters worse. An admirable example of the well-advised exercise of governmental control is afforded by the hard-fought controversy upon the Third Avenue Street Railroad in New York. The experience merits review. In 1907-08 this company went into the hands of receivers. Its financial history was a disheartening record of fraud. Stocks and bonds of subsidiary companies stood upon the books at a cost of \$9,950,000 — nearly twice their face value — despite the fact that one of these companies was in the hands of a receiver, another was practically worthless, and none of them judged by earnings was conceivably worth more than par. Over \$500,000 of capital had been devoted to paying interest charges; \$6,000,000 had gone into operating expenses; \$1,000,000 for lawyers' fees; \$1,000,000 into an untraced construction account, while for \$5,000,000 there was absolutely no record.

In 1909, after foreclosure proceedings, a reorganization committee of bondholders as intending purchasers prepared a plan for the organization of a new company and applied for authority to issue the necessary securities.¹ The plan of readjustment frankly admitted a huge discrepancy between the assets of the property and the capital liabilities proposed. The outstanding bonds and stock of the old Third Avenue road amounted to \$58,560,000; the new capitalization was practically identical in amount. The plan followed the common rule in the reorganization of companies characterized by much watered stock and depreciated bonds. Fixed charges were cut down by substituting for the old mortgages, new income bonds calling for interest only as earned; and a heavy assessment was levied upon stock-

¹ 3 P. S. C., 1st D., 81.

holders under penalty of having their former holdings cancelled. The Public Service Commission upon this showing declined to permit the new company to be capitalized for an amount equal to the outstanding securities of the old road, alleging properly enough that the reorganization was an opportune time for bringing capitalization and assets more nearly into equivalence.

After this first rebuff, a somewhat improved plan of reorganization was in due time presented for approval. The stockholders, instead of being required, as before, to subscribe heavily to new stock equally valueless with the old, were now given a certain proportion of bonds in return for their assessment. But even under this second plan, the outstanding securities aggregated \$73,600,000, whereas the physical assets were avowedly worth only \$44,000,000. This excess of liabilities was, of course, the fruitage of the stock-watering and fraud of past years. Even on the basis of reproduction cost entirely new, plus necessary working capital, current assets amounted to only \$68,000,000. This figure made no allowance for depreciation, obsolescence or inadequacy, and it included \$11,625,000 for "development expenses," such as brokers' commissions and discount on bonds. The Public Service Commission thereupon in 1910 disallowed the second application. The case then went to the Supreme court and a decision was finally handed down,¹ purely on law points, which upheld the appeal of the reorganization committee. An ancient section of the Stock Corporation law was unearthed, which by oversight was not repealed when the Public Service Commission Act was passed. This gave free rein in the matter of recapitalization to reorganiza-

¹ N. Y. 145 App. Div. 318; 203 N. Y. 299; 96 N. E. Rep. 1012. Precedent followed by Nebraska; 5th Ann. Rep. Railroad Commission, 177.

tion managers. The next legislature promptly revised the statute. But in the meantime, the Commission was obliged to approve this second plan despite the utter discrepancy between capitalization and assets. But, of course, under such circumstances the new securities could not be marketed at anything like par. It was estimated that \$55,000,000 par value would produce only about \$33,000,000 in cash. At this point, the Commission in 1912 once more intervened.¹ The policy imposed was the only sound one for dealing with matters of this sort. It was directed that an amortization fund be set aside annually out of earnings, sufficient to cancel all the excess of liabilities over assets by 1960, when the bonds matured. Heavy depreciation charges were also required. A similar wholesome plan has since been adopted in the case of steam railroad issues by the New York up-state commission, notably in approving of the New York Central bond issue of \$70,000,000 in 1914. Such may be said in fact to have become the established practice. It is obviously the only prudent one.

The foregoing review of experience is broadly significant. It emphasizes the need of governmental supervision in matters of finance, — certainly so far as standardization of accounts is concerned, and probably also as indicating the further need of downright control by administrative order.¹ But such supervision cannot be exercised by divided and conflicting state authority. The Federal government must certainly take hold. The need of so doing is still further emphasized by the proven inter-relation of rates, service and finance. Everything seems to point to the assumption of such control by the

¹ 3 P. S. C., 1st D., 51.

² Cases before state commissions will be analyzed by the author in the *Economic Review*, September, 1914.

Interstate Commerce Commission. It is no light matter to lay so heavy an additional burden upon this already over-worked body. The necessity of a separate departmental organization for this set of financial functions is clearly foreshadowed.

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DEPRECIATION AND RATE CONTROL

SUMMARY

Importance of depreciation for valuation, 630. — A well maintained property is yet normally in a state of depreciation, 632. — How to allow for this circumstance depends on the purpose for which accounts are made up, 635. — Mode of reckoning depreciation required by Interstate Commerce Commission, 637. — "Replacement account," "Reserve for accrued Depreciation," 639. — A possible alternative, 644. — The general procedure justified for purposes of regulation, 648. — Criticism possible as regards earlier charges made, 654. — A different principle and a different rule by other regulating bodies, 656. — Wisconsin Commission, 657. — The United States Supreme Court, 660. — Conclusion, 662.

x Two questions outrank in practical consequence all other problems of procedure in the valuation of the properties of public service companies for purposes of rate control. First, what is a proper rate of return upon the investment? Second, shall the property taken as evidence of the investment be valued for that purpose as tho it were new, or shall an allowance be made for the fact that it is in various stages of age, wear, and obsolescence? Under American conditions the difference between original cost and replacement cost as a standard of valuation is not apt to be large,¹ except for real estate holdings, and in the aggregate the difference between the results got by the use of these two methods will usually be less important in its bearing upon the determination of reasonable rates than is the margin of uncertainty with respect to either the proper rate of return or the matter of depreciation. Nor do

¹ The common practice of averaging prices over a period of five or ten years in determining replacement cost contributes to this end.

the minor problems suggested by such phrases as "interest during construction," "going value," "donated property," and the like, usually compare in importance, even in the aggregate, with the two that have been named. The present paper deals with the second of these two major issues of valuation.

In a valuation made for the dual purposes of rate regulation and taxation in Wisconsin the present (depreciated) value of the physical properties of twenty-six electric railways was found to be \$7,826,000 or 82 per cent of the "cost of reproduction new" of \$9,596,000.¹ For individual companies the corresponding proportion was as low as 57 per cent, and was below 79 per cent in as many cases as above it. And these figures include the value assigned to land and grading, from which no deduction for depreciation was made. The depreciated value of the properties of fifty-four steam railroads was estimated as \$196,239,000, or 80 per cent of the cost of reproduction new, which was given as \$244,129,000. This percentage varied for individual railroads from 61 to 96, the median being 77.² Leaving out of account the items of land and grading, on which no depreciation was reckoned, the depreciated value of the remaining assets of the fifty-four railroads was only 73 per cent of the value new.

The Michigan valuation of the properties of steam railroads in 1900 gave a depreciated value that was 81 per cent of the cost of reproduction.³ In the Minnesota appraisal of 1907 the corresponding percentage was 88.⁴ But when the unusually large list of items in

¹ Fifth Biennial Report of the Wisconsin Tax Commission (1910), Appendix D.

² Computed from a table in the Fourth Biennial Report of the Wisconsin Tax Commission (1909), p. 128.

³ Bulletin 21 of the Bureau of the Census (1905), p. 78.

⁴ Twenty-fourth Annual Report of the Minnesota Railroad and Warehouse Commission (1908), p. 52.

the latter valuation against which no depreciation was charged ¹ is eliminated from the reckoning, the proportion is reduced to 76 per cent.

Examples of this sort might be multiplied, but it is better to turn to the general principles underlying the aggregate amount of depreciation of the properties of a large business. Mr. James E. Allison, formerly a member of the St. Louis Public Service Commission, as well as its chief engineer, was the first to appreciate the significance of these general principles.²

At any given time in the history of a large business undertaking with extensive and varied properties, properly maintained, some of the items of plant and equipment will be new, or nearly new. And unless the business has been newly undertaken, other items of plant and equipment will have nearly served their term of profitable use. Still others will be found in each of the possible stages of wear intermediate between newness and final replacement. It follows that an efficiently maintained property of this sort which has been operated for a sufficient number of years will normally be about half "worn out" and that, if renewals continue to be promptly made when needed, the property will normally tend to remain in this same average physical condition. This conclusion is subject to a few very simple qualifications. (1) No single item of plant or equipment can be so large and expensive, relative to the other items, that its degree of newness disproportionately affects the average state of wear. (2) The various

¹ Including land, grading, track laying, stores and supplies, contingencies, and interest during construction.

² Should Public Service Properties be Depreciated to obtain Fair Value in Rate or Regulation Cases? Report to St. Louis Public Service Commission, 1912. Reprinted as Appendix A of the Report on the United Railways Co., by the St. Louis Public Service Commission, 1912; and as Appendix D of report of same commission on the Southwestern Telegraph and Telephone Co., 1913. Cf. also Mr. Allison's paper on "Depreciation," *Annals Amer. Acad. Pol. and Soc. Science*, vol. lili, p. 198 (May, 1914).

items of plant and equipment must have been acquired at different times or else (the more common case) must have differing periods of life, so that replacements are distributed with some evenness through successive years. (3) The business must be in a static condition. If it is growing in size there will be a relatively larger amount of new equipment; if it is declining, some of the equipment may not be replaced as it wears out, and the property as a whole will be in a sub-normal condition.

This last condition — that the aggregate size of plant and equipment is supposed to be neither increasing nor decreasing — is one which rarely holds true under American conditions. Most American railroad and public service corporations are apt to increase their investment in fixed capital from time to time.¹ But this fact does not affect the significance of the conclusion that there is such a thing as a state of "normal average depreciation." One might, if one pleased, modify the assumption of a normal depreciation of 50 per cent so as to allow for the effects of any given rate of growth. But this is scarcely necessary, for all practical ends are served by considering the present and future depreciation and probable replacement of the body of assets which exists at a given time, and for this purpose the 50 per cent average is generally appropriate. The other conditions are not usually far out of line with the facts. Indeed, the customary endeavor of every properly conducted business to prevent too large a burden of maintenance or replace-

¹ This is one of the reasons why the depreciated value of railroad properties as found by various commissions is generally considerably more than 50 per cent of the undepreciated value. Other reasons (aside from a possible large margin of error in the work itself) are the inclusion of non-depreciating assets in the valuation, and the fact that the residual or scrap value of the discarded assets has to be taken into account. Thus a steel rail costing \$28 per ton and with a scrap value of \$12 per ton would when "half worn out" be valued at about 71 per cent of its cost new.

ment expenses from falling within any one year works potentially toward securing a normal average condition of depreciation.

The result of this general analysis not only indicates the magnitude of the interests affected by the question of the proper treatment of depreciation in valuation for purposes of rate control, but, as will be indicated later, it has an important bearing upon the proper answer to that question.

Durable capital goods are said to "depreciate," while less durable ones are "used up" or "consumed." The difference is, of course, one of degree only. Buildings, rails, and locomotives are worn out slowly; fuel, oil, and other supplies are used up rapidly; but in the long run the two processes are alike. Just where the line shall be drawn between them for accounting purposes is determined by the fact that a year is the ordinary fiscal unit of time. Assets whose normal length of life is more than a year are "capital assets," and "depreciate"; assets of a more transient sort are used up and replaced within the year, and their cost is counted under the head of operating expenses. If the customary fiscal unit of time were five years, or twenty years, there would be fewer assets whose depreciation would have to be taken into account. Part of what are now capital assets would in a longer fiscal period appear as current assets. But, as it is, we wish to know the profit or loss of a business undertaking during a year, and its general condition at the end of the year. So some method must be devised of allocating the cost of the more durable instruments of production among the successive years of their period of life. "The more permanent form of assets serving for productive use during a period of years should be spread as an expense

during the period of use, whether that be five or fifty years."¹

It is not surprising that there is no general agreement among accountants respecting the proper basis of thus cutting up and parcelling out the total cost of a durable good. It is easy to concede that the purpose of accounting is to ascertain and exhibit the true condition of a business, but just what the truth is will depend upon the specific question which we ask the accountant. 1 Do we want to know from the balance sheets whether the productive efficiency of the durable equipment of a business is being maintained unimpaired? 2 Is the most accurate statement possible of the profit or loss of a particular year the *desideratum*? 3 Are we looking toward the future and asking whether adequate provision is being made for the amortization of the cost of the durable capital assets that will have to be replaced? 4 Or do we have a possible insolvency in mind, and seek to know the market value of either the equipment as a whole or its different parts? Emphasis upon one query would logically lead to apportioning depreciation among the various years of life of a durable good according to the diminution of its productive efficiency; the proper answer to others would be given by apportioning depreciation according to the requirements of annual contributions to a sinking fund or according to the diminution in the estimated market value of the assets in question. Very frequently actual accounting practice represents, necessarily, a compromise between two or more of these

¹ H. R. Hatfield, *Modern Accounting*, p. 122. The following admirable statement is by Mr. J. S. Eaton (*Handbook of Railroad Expenses*, p. 3): "So we see that capital expenditure, as distinguished from expenses, is at last an arbitrary conception. It begins with the idea that certain expenditures have an efficiency that reaches over many earning periods extending indefinitely into the future. But nothing physical would last so long, and its earning power might have even less permanence. To meet this condition we arbitrarily designate certain expenditures whose effect indefinitely outlasts the immediate earning period as 'capital,' and then in the same arbitrary way, through all subsequent vicissitudes, we hold them to their first value, by maintenance, renewal and depreciation charges which are borne by current expenses."

different possible methods of procedure. Thus we find, for example, that one of the points sometimes made in favor of the method of dividing the total depreciation of an asset into equal annual parts is that while the market value of many capital assets (machines, perhaps) declines most rapidly in the first few years of use, the technical efficiency of the same assets declines most rapidly in the years just before they are discarded.

These and similar considerations have to be weighed in any thorough analysis of the problem of the proper recognition of the fact of depreciation in private enterprises. They are also properly to be taken into account in discussing the business policies of unregulated public service industries. Altho the principle that the charges of such industries must be reasonable is of long standing, this cannot be said to have had any particular bearing upon the depreciation problem until some basis for the determination of "reasonableness" was laid down by commissions and courts.

But with regulated public service undertakings the case is different. Here the proper adjustment of depreciation accounts is not merely a matter of business policy nor of the proper adjustment of the interests of the holders of the various classes of equities in the earnings and assets of the business. It directly affects the issue between the proprietors of the undertaking on the one hand and the public on the other. It does this by operating on, first, the amount of annual net earnings shown by the accounts, and, second, the real or apparent magnitude of the capital investment. This bringing in of the public interest as a matter of primary concern helps to define and narrow the problem and at the same time raises new issues.

There is no better way of approaching the question of the proper treatment of depreciation in the valuation of the properties of public service companies than by examining in some detail the functions and results of depreciation accounts in public service undertakings. Railroads will serve as the best example, not only because of the magnitude of the interests involved, but also because the accounting rules of state public utility commissions have been patterned in large measure after those of the Interstate Commerce Commission. The principles involved are of general application.

The Interstate Commerce Commission, acting under the increased powers over the accounts of railroad companies given it by the Hepburn Act of 1906, now requires that the depreciation of rolling stock be counted as an operating expense.¹ The introduction of this account was in line with a general attempt to draw the line more accurately between "additions and betterments" on the one hand and the mere replacement or maintenance of existing capital on the other. Maintenance accounts, as every one knows, had been the loose ends of railroad book-keeping. In an earlier period of American railroad finance, inadequate appropriations for maintenance of way and equipment furnished a common method of milking the property and of manipulating the value of securities through the payment of unearned dividends. In more recent years this practice had become relatively less frequent, and many of the stronger roads had gone to the other extreme of overstating their maintenance costs by counting many sorts of additions and betterments as replacements. It was in part to control this practice that the regulations

¹ Under the latest revision of the I. C. C. Classification of Operating Expenses, taking effect July 1, 1914, accounts are also provided for the depreciation of fixed improvements, including way and structures. But for the present the use of these accounts is optional with the carriers.

referred to were instituted by the Commission. In addition to these requirements, elaborate rules were later made for the definition and classification of additions and betterments.

There was much complaint that these regulations interfered in an unwarranted way with the companies' rights to determine their own financial policies, and much was said about the advantages of the conservatism expressed in the understatement of net earnings. It was alleged, furthermore, that replacements and renewals fell so evenly in the case of a large railroad that it was unnecessary to provide for them in advance. The reply of the Statistician for the Commission was to the effect that the control of accounts is not the control of financial policies; that the railroads were still free to make such disposition of their earnings as they chose: that "capital assets are consumed in operation . . . regardless alike of the corporation's policy of management or the Commission's rules of accounting"; that these rules deprived the railroads merely of the opportunity to misstate the facts.¹

There is no reason to doubt the wisdom of the general policy expressed in these orders of the Commission. Charging betterments to operating expenses builds up a "secret reserve" which can be brought to light at any time and thus made as effective a means of manipulation as unearned dividends. The arbitrary diminution of the amount available as net income, by reason of swollen maintenance expenses, may frequently be unfair to the owners of income bonds or of non-cumulative preferred stock, or to other holders of equities in the business who may be more interested in maintaining present returns than in increasing future profits. Finally (and what from the point of view of the present

¹ *Twentieth Annual Report on the Statistics of Railways* (1907), pp. 21-24.

inquiry is most important) it is not to the public interest that the existing level of rates should appear to be less profitable to the railroads than it really is.¹

Some difficulties have developed, however, in the handling of the depreciation accounts. The Commission did not prescribe the annual rates of depreciation which the carriers should use for different classes of equipment. It now reports, "This latitude has resulted in widely different practices, the rates used by different carriers varying from nothing up to 7 per cent or more per annum upon equipment operated under substantially similar conditions. It seems evident that this variance is in some cases due to differences in policy rather than differences in actual depreciation or in the estimates thereof."² The result is, of course, that we still have many instances where the net income is either overstated or understated, according as the rate of depreciation used is too low or too high. This can be corrected in the future and undoubtedly will be. The chief obstacle to the efficient control of depreciation charges has been the paucity of reliable statistics of the average life of different sorts of equipment under different operating conditions.

A more serious difficulty has arisen in connection with the disposition of the "depreciation reserve" which is created by the depreciation charges. And here we have to do with a matter of fundamental importance. The depreciation charges were inaugurated by requiring the carriers to include in their operating expenses a monthly

¹ The Commission has recently stated: "There is manifested [by the carriers] a growing appreciation of the importance of exact and theoretically correct accounting. At the same time there is a corresponding decline in the opinion, once too prevalent, that accounting may properly be governed by the policy or by the financial situation or needs of the accounting carriers." — Twenty-seventh Annual Report (1913), p. 39. The accounting regulations of the Commission have recently been sustained by the Supreme Court, in *Kansas City Southern Ry. Co. v. U. S.*, 23 U. S. 423 (1913).

² Twenty-seventh Annual Report (1913), p. 39.

charge of one-twelfth of the estimated annual depreciation on each item of equipment. The determination of the various rates of depreciation to be assumed was, as we have seen, left to the carriers. An amount equal to the total charges for depreciation each month had to be credited to a "replacement" account. These replacement accounts were in turn charged with the cost of all new equipment acquired in place of equipment discarded or destroyed. Now it might happen, of course, that particular items of equipment would be worn out or destroyed before the accumulated depreciation charges on them would have amounted to enough to provide for their replacement. Even if the depreciation rates used had been found to accord with average experience there would have been a deficient provision for the replacement of all items of equipment which happened to be destroyed or abandoned before reaching the "average expectation of life."¹ Moreover, many items of equipment were already old on July 1, 1907 — the date at which depreciation charges began. So a "renewals" account for each class of equipment was also instituted. To the renewals account was charged as an operating expense the value of any item of equipment destroyed or otherwise retired from use minus salvage and the amount already accumulated in depreciation charges.

¹ Account should be taken of this official statement: "It is not intended that these accounts should be restricted to individual cars or locomotives. . . . On the other hand, the several amounts standing to the credit of these replacement accounts should be available to carriers for the purpose of replacement of equipment to the extent of such credits." — *Classification of Operating Expenses, Third Revised Issue (1907)*, p. 92. Later in response to a specific inquiry, it was definitely stated that the reserve created by depreciation charges on one class of equipment might be used for the purchase or replacement of other classes of equipment. (*I. C. C. Accounting Bulletin No. 1, 1908, Case 108.*) But these rulings are clearly inconsistent with the principle of the renewals account, by which provision was made for an adequate replacement reserve for each individual item of equipment. The real effect of the rulings was to make it possible for railroads to use the surplus in their replacement accounts in what were virtually additions and betterments, thus keeping their "property account" intact. The ruling in Case 108, referred to above, was later cancelled (*I. C. C. Accounting Bulletin No. 4, 1909*).

Thus, if a freight car which had cost \$500 had been destroyed with a salvage of \$75, when only \$125 had been charged to depreciation for this car, a charge of \$300 would at once be made to "renewals." The renewals account may be interpreted as a device for recording for each particular item of equipment the amount of finally realized depreciation not previously covered in the depreciation account. Operating expenses were in this way annually charged with (1) an amount representing the depreciation attributed to the wear and tear of the year's use, and (2) a further amount representing the total amount of depreciation on equipment retired within the year not previously written down.¹

It seems to have been assumed that the amount of credits in the replacement reserve from accrued depreciation together with the amount of charges to renewals would stop the practice of charging to maintenance the expense of real improvements in equipment. At least in much of the current discussion of the problem it was assumed that depreciation charges would in some way be a gauge of proper allowances for maintenance. And it is hard to find any other significance in the official statement that "all replacements in excess of such credits must be considered as Betterments or Additions, and charged either to Income or to Capital."²

Whatever may have been the expectation, it is quite impossible that the magnitude of the replacement reserves should in any way have really determined the amount of expenditures properly chargeable to maintenance rather than to additions and betterments. For at any given time these reserves, together with the

¹ Subsequently the carriers were permitted to charge realized depreciation allocated to the period of use before July 1, 1907 to profit and loss instead of operating expenses. Cf. I. C. C. Accounting Bulletin No. 8 (1912), Case 574, and p. 654, *infra*.

² Classification of Operating Expenses, Third Revised Issue (1907), p. 12.

charges to renewals, would afford ample provision for all equipment retired from use and just about to be replaced, and would also contain *an additional amount equal to the accumulated depreciation charges on all equipment remaining in service*. This additional amount or surplus could not be written off for replacement purposes except as the particular items of equipment on which depreciation had accumulated went out of service,¹ and in the meanwhile it would in the normal course of things have been further swollen by the continuing accruals of depreciation charges. Since this continually growing surplus could not be used for legitimate replacement purposes, it furnished an opportunity to the carriers to charge expenditures for additional equipment to replacement and, hence, to operating expenses. The term "replacement account" was a misnomer.

When a more rigorous control of these matters was determined upon, those in charge of the accounting policies of the Commission had two possible methods of procedure open to them. One was to so readjust their rules that depreciation charges would in fact furnish an adequate replacement fund and nothing more. This, as we shall see, was practicable, altho not advisable. The alternative was to admit that the existing replacement accounts were not replacement accounts at all and to call them something else. This was done.

The new rule was phrased, "The accounts heretofore referred to as 'Replacement' accounts should hereafter be kept under the name of 'Reserve for Accrued Depreciation.'"² The total amount of the balances in these accounts must now be shown on the balance sheet as a

¹ Despite official rulings to the contrary. Cf. note on p. 640, *supra*.

² I. C. C. *Classification of Expenditures for Additions and Betterments*, first revised issue (1910), p. 19.

deduction from the aggregate investment in road and equipment. This is, in substance, a frank recognition of the permanent character of this reserve and of the fact that in the normal run of events it cannot be diminished, but, on the contrary, is bound to increase. The account, moreover, has a new meaning. It is no longer supposed to have any definite bearing upon current replacements; it is held to represent the amount by which the values in the (equipment) property account have been diminished by the lapse of time. The regulation of expenditures for additions and betterments is now accomplished in a simple and adequate fashion. It is required, as before, that when an item of equipment goes out of service only the difference between its cost or ledger value and the subsequent accumulation of depreciation charges on it shall be charged to operating expenses,¹ the remainder of the cost of replacement having already been charged to operating expenses through the depreciation account. But this is controlled by means of a new "equipment" account, the balance in which represents the difference between the aggregate expenditure for new equipment and the cost or ledger value of equipment retired. This balance is thus a measure of additions and betterments to equipment, provided that one measures replacements by the aggregate amount of realized depreciation (retirements) during the year. The equipment account, it will be noted, is quite disassociated from the accrued depreciation account, and in no way dependent upon depreciation charges of any sort.

The reserve for accrued depreciation is, then, identical with the old replacements account except that its significance is more accurately interpreted and that it is

¹ Specifically, to the "retirements" account, as the old "renewals" account has been more appropriately renamed. The reserve for accrued depreciation is, of course, debited with an amount equal to the sum previously credited to it on account of the particular equipment retired.

more adequately protected against being depleted to cover virtual additions and betterments. But to some carriers the change (in interpretation) seemed to carry with it large consequences. One inquiry reads: "This is a radical departure from the methods adopted by the Commission, July 1, 1907 . . . and the question now arises as to what carriers are to do with the vast sums they have charged in the past for depreciation on equipment."¹ Another is: "A carrier has left standing in its Replacement account a large balance, which will be constantly augmented and it does not appear to be available for any purpose. How is this account to be closed?"² The accounting authorities of the Commission replied: "The effect of the methods prescribed for handling the accounts is that the account Property Investment will, in theory, include the actual cost of all equipment owned, while the depreciation account will represent the expired value or depreciation on the equipment."³ This, of course, contemplates no closing of the account.

Let us turn from the present status of the Commission's regulations to the alternative procedure which it might have adopted when it was found that the replacement reserves were growing too rapidly to serve as a check on maintenance expenditures. If instead of changing the interpretation of the significance of the replacements account, it had desired so to modify the system of crediting to this account that it would have furnished a real gauge of proper maintenance charges, this could conceivably have been accomplished. Roughly approximate results could have been obtained, for example, by (1) charging depreciation as planned upon all existing equipment and upon all equipment

¹ I. C. C. Accounting Bulletin No. 8, Case 567.

² Case 575.

³ Case 567.

subsequently acquired to replace it; (2) abolishing the renewals or retirements account; and (3) charging no depreciation (except perhaps to cover actual retirements) on any class of additional new equipment until the expiration of t years from the introduction of the new regulation (where t represents the "expectation of life" of the equipment in question). Beginning with the end of t years, depreciation would have to be charged on all the additions made up to that time to that particular class of equipment, and would continue to be charged upon all equipment bought to replace these additions. But in each successive period of t years no depreciation would be charged upon yet further additions to equipment of the same class.¹

To make the matter clear take the artificially simple case of a railroad owning n locomotives, each of which has cost \$10,000 more than its scrap value and has a total period of serviceable life of ten years. Assume further that these locomotives have been acquired in fairly even numbers in successive years to replace discarded equipment. Then of the n locomotives in service at the beginning of the fiscal year about one-tenth will be discarded within the year. The normal depreciation charge per locomotive per year is \$1000. So that if depreciation charges are inaugurated at the beginning of the year, the accruals for the year ($n \times \$1000$) will just suffice to replace the $\frac{n}{10}$ locomotives which will be

¹ This rough method is based upon the premise that annual depreciation charges upon equipment, fairly evenly distributed with respect to age between newness and readiness for retirement, will suffice to provide for annual replacements. It would apply only to large railroads and would have to be modified if the railroad possessed more new equipment than old (or *vices versa*) or if additions made in each successive period of t years were not distributed with some evenness among the individual years. Given the age statistics of the equipment of any railroad, it would be easy to prescribe formulas for depreciation charges that would adequately provide for replacements and no more. But the purpose of the rough illustration given in the text is to distinguish "depreciation for replacement" from the so-called depreciation that is measured by the expired proportion of the aggregate probable years of life of the equipment on hand.

discarded during the year. And in each succeeding year depreciation charges and replacement costs will continue to equal each other.

Up to the time when depreciation charges were begun the n locomotives then in service had completed in the aggregate $5n$ locomotive years. If the depreciation charges were to conform to the Interstate Commerce Commission's accounting rules it would have been necessary not only to make the provisions just described, but also to reach back into the past and set down depreciation charges on each locomotive retired for each of its years of life prior to the inauguration of the accounting system. And it would be necessary to proceed in this way until all of the original n locomotives had been replaced. Since the regular annual depreciation charges are adequate to provide for all replacements, the net result of the additional (retirements) charges would be the accumulation of a permanent and unusable reserve for accrued depreciation amounting to $5n \times \$1000$, or just half the difference between the original cost of the n locomotives and their scrap value.

In this simplified case current annual depreciation charges, without further additions on account of retirements, are a proper measure of current annual maintenance expenditures. And, given sufficient data, there is no difficulty of principle in thus equating depreciation and maintenance in the case of an actual railroad, with its equipment unevenly distributed in point of age. But the Interstate Commerce Commission's present method of controlling replacement costs is simpler and better. The outcome of the equipment account is that the amount of annual expenditures for new equipment charged to operating expenses is determined by the (cost) value of the equipment retired within the year. Realized depreciation, rather than so-called partial

depreciation (measured by the proportion of the aggregate probable life of the equipment on hand which has expired within the year) is the controlling factor.

In the case of a large railroad with varied equipment this completed depreciation (retirement) will be sufficiently uniform in amount, year after year, to obviate undue fluctuations in annual replacements. And from the point of view of logic this method has the distinct advantages (1) that realized depreciation is a definitely measurable fact and (2) that replacements happen in fact to be made on account of realized depreciation and for no other reason.

By adequately providing for the control of expenditures for replacements this practice weakens the case for requiring depreciation accounts.¹ When these accounts were instituted the railroads had claimed that their properties were so large and varied, and their maintenance expenditures consequently so regular, that maintenance itself was a sufficient protection against all depreciation. The rejoinder was, as we have seen, that in practice maintenance charges were frequently either too small to provide for replacements or were made unduly large through the inclusion of provision for additions and betterments. But with maintenance controlled, depreciation charges become, in effect, merely a way of measuring a presumed consumption of capital over and above the amount annually replaced.

Moreover, it would now be idle to claim that to require depreciation charges is in no manner to interfere with the financial policy of the railroads. For the compulsory annual additions to the reserve for accrued depreciation decrease by their full amount the apparent

¹ With the depreciation accounts eliminated, the entire cost of discarded equipment, minus salvage, would be charged to operating expenses under the rubric of "retirements."

profits of the year and thus the amount available for dividends. Altho no investment of a separate depreciation fund is required, yet the writing down of the capital assets by the amount of the accrued "depreciation" means in the long run either that other assets have to be larger in amount than they otherwise would have been or that liabilities have to be smaller. Usually the growth of the reserve for accrued depreciation means in practice that additional permanent investments are being made out of earnings. The reserve represents an additional, permanent, and compulsory investment in the business to take the place of the amount of the investment written off for depreciation. To require such a reserve to be created is to control, in that degree, the financial policies of the companies affected. This is not to condemn the requirement in question, but merely to show its real significance.

But, it may be objected, surely property that is half worn out is not worth as much as when it was new. Should not its value be written down, if the balance sheets are to tell the truth? This question has significance only if it be assumed that the purpose of the depreciation accounts of railroads and other public service companies is to record the *decline in the market value of individual assets*. But even for private business undertakings this is not, in the opinion of the majority of competent writers, the purpose of depreciation accounts. It is most certainly not their purpose in railroad and public utility accounting.

The balance sheets of public service corporations are not designed, as those of a merchant might be, with primary reference to a possible insolvency. The outlook to be assumed is that of continuous and permanent operation. Many of the parts of a public service prop-

erty could not be detached and sold except as scrap. And as for the market value of the undertaking as a whole, it is scarcely necessary to say that this is a matter of earning power, which depends upon rates and hence eventually upon the manner in which public control is exercised. It is hardly to be expected that any one will defend the propriety of a reserve against the possible depreciation of market values resulting from compulsory rate reductions.

Nor are the depreciation charges on public service properties supposed in any way to represent a diminution of the productive efficiency of the plant and equipment. For with replacements and repairs properly attended to, there is no general decline in productive efficiency. Even for any individual item among the wasting assets the loss of productive efficiency usually comes as a sharp decline near the end of its period of life rather than a gradual deterioration spread evenly through its years of use.

The depreciation to be reckoned with in the case of such properties is merely a phase of cost-keeping—a device for allocating the consumption of capital among the successive years. The concrete facts to be recorded as best they may are not the “using up of values” (whatever that may mean) nor yet anything related to a deterioration in the service rendered, but merely the actual expiration of part of the aggregate probable period of use of the instruments of production on hand, and the nearer approach of the time when they will have to be replaced.

Profits and interest, it is very certain, cannot be counted until the principal of an investment is replaced or provision is made for its replacement. In the case of a business where one item forms the bulk of the income-yielding assets—a steamship, a coal mine, a patent

right purchased at a price, for example — either enough must be set aside out of annual earnings to replace the original cost of the property when it is abandoned or retired, or the proprietors must be content to consider that their investment is being returned to them in instalments. If the business is to be continued on the same scale the replacement must, of course, be provided for in advance or else the proprietors must make a second investment equal in amount ¹ to the first.

All this is elementary. It is brought into the present discussion merely to indicate clearly the conditions under which a reserve for accrued depreciation is well-nigh indispensable. But where a property is varied and no single wasting asset or group of such assets is of dominating importance the case has been shown to be different. The periods of use of the different items of assets *overlap*, so that when depreciation is charged from the beginning on each item, a reserve begins to accrue on a given item before the reserves accumulated on account of other items have been diminished on account of replacements. The permanent reserve thus created is not needed. Nothing corresponding to it appears in the simpler case where depreciation is registered on some large asset representing the major part of the investment. It is very likely that some of its defenders fail to distinguish between depreciation charges to provide for replacement and depreciation to provide for liquidation — *i. e.* to maintain market value.

The fallacy in the view that the "reserve for accrued depreciation" is a necessary record of fact hinges on what is from the economic point of view the more or less accidental circumstance that the productive equipment of an undertaking happens to be in units of a sort that *are defined as units by the customary categories of purchase*

¹ Disregarding possible changes in the prices of capital goods.

and sale. In economic fact the property of a public service undertaking as a whole is a productive unit. Consider it as such, — then replacements appear merely as repairs necessary to keep the whole property in a state of efficiency. Repairs in this large sense are of course to be counted as operating expenses, as is true of minor repairs. But if such repairs are fairly regular in amount year by year there appears to be no inexorable reason why a fund to provide for them should be accumulated in advance and more especially a fund that will amount to much more than the actual annual cost of the repairs.

But another and apparently more weighty objection may be brought against this denial of the inevitableness of the depreciation reserve. If no such reserve is provided while the property changes from a condition of newness to a condition where it has on the average about half its original expectation of life, does this not mean (if the business has been profitable) that about half the original investment has been returned to the pockets of the stockholders? And should not the amount of the investment as it appears in the balance sheet be written down accordingly? This point is apt to be especially stressed by the defenders of the depreciation reserve.

But these questions cannot be answered categorically. There is no necessary correlation between the mere aging or even the physical wear and tear of capital goods and the diminution of the investment. The concrete facts in the case are few. When capital goods are installed their cost is a definite amount of investment; when they are retired from use the investment is diminished by the amount of their cost, minus salvage. If such capital goods are replaced promptly when retired, is not the amount of the investment, in every real sense, kept intact?

The only assumption on which any other answer seems admissible is that in addition to repairs, replacements, and other costs, contributions to a reserve for accrued depreciation are *contemplated in advance as part of the expected costs of operation* and consequently taken into account in determining the nature and amount of the original investment. If the investment is made with this expectation, the failure to maintain such a reserve may very properly be said to diminish it.

It can hardly be seriously urged that before the days of regulation by commissions a public service company ought to have decided to build up a useless depreciation reserve. Against such a supposition we have the known facts (1) that such was not the general practice at the time, and (2) that the trend of court decisions was to the effect that depreciation, even against replacement, need not be counted as part of operating costs.¹

In the absence of such a reserve net profits for the time being² would of course have been higher than if a reserve had been accumulated. But to claim that this difference in the amount of profits represents the return to the proprietors of part of the principal of their investment is to beg the whole question. Such terms as "diminution of investment" and "repayment of principal" are clearly defined only in the case of a contractual loan. In the case of a permanent industrial investment for profit there is no such definition at hand. Lacking it, we can only turn to the expectations, plans, and estimates of the proprietors in order to determine what may properly be called net income.

To make the point clear we may take a marginal case. Suppose that an investment of \$10,000,000 is made

¹ See H. R. Hatfield, *Modern Accounting*, pp. 124, 125, and cases there cited.

² Until the properties had reached that static condition where replacements normally balance annual depreciation, — and similarly for additions to the properties.

with the expectation of maintaining the property intact by all necessary replacements, but with no idea of accumulating a depreciation reserve. Suppose further that if contributions to such a reserve had, of necessity, entered into the calculations, the investment would not have been made, or, at any rate, would have been smaller. Can it be argued that the failure to maintain such a reserve is equivalent to repocketing part of the original investment ?

In general, there is a reasonable presumption that the investments in undertakings which have not accumulated a depreciation reserve were not made with the expectation that it would be necessary to charge depreciation accruals to operating expenses. It follows that it cannot in general be presumed that the profits of such undertakings have contained an element which should unquestionably be considered a repayment of part of the invested principal. Accordingly, serious objection might properly be made to a system of compulsory accounts which requires that property already on hand be written down for depreciation.

The control of accounting with respect to property acquired after the new system of accounts is introduced is quite another matter. These subsequent investments (including replacements) are made with full knowledge of the accounting rules in force and of the way in which " profits " are to be defined and measured. Whether a " reserve for accrued depreciation " should be required for such property is purely a matter of public policy. They are not necessary to the continued and successful operation of the property. But there are several points in their favor. Such inequalities as occur in the replacement needs of successive years can be met with less shock. Annual profits tend to remain steadier when variations in replacements are largely absorbed by the

variation of corresponding charges to the depreciation account rather than being directly charged to current operating expenses. And in the case of possible purchase at some future time by the government the existence of adequate reserves against all accrued depreciation would greatly simplify the problem of valuation for sale, just as it would eliminate some of the difficulties that now attend the problem of valuation of rate control.

From the point of view of public policy, then, the depreciation rules of the Interstate Commerce Commission and of the various state commissions which have followed its lead are in general reasonable and apparently well-advised. They seem open to criticism only in so far as they compel the accumulation of depreciation charges on property acquired before the rules were put into operation. Under the Interstate Commerce Commission's regulations such charges are handled differently according as the depreciation is allocated to the period before or after July 1, 1907. Depreciation accruing subsequent to that date on property then in existence is, of course, charged to operating expenses. But this amount of depreciation is, as we have seen, roughly offset by replacements. It is only the depreciation charged on new additional equipment during its first years of use and on old equipment before the inauguration of the accounting system that accumulates as a permanent reserve.¹ It is only the practice of reaching back into the past for whatever depreciation is supposed to have accrued before July 1, 1907, that is open to objection.

¹ This is of course an arbitrary division of the depreciation charges. In fact all depreciation accruals over and above the amount of "realized depreciation" during a year accumulate as a reserve. The "realized depreciation" is in part on equipment installed before July 1, 1907. But there is, nevertheless, a rough equality between the depreciation realized in a year and the total amount of depreciation on equipment on hand credited to reserve during the year.

But even in this respect the case is less serious than might be supposed. During the first two years of the new accounting régime, it is true, all of the realized depreciation (cost minus salvage) on equipment retired seems to have been charged directly to operating expenses. But under the present rules that part of realized depreciation which is allocated to the period before July 1, 1907, is charged directly to profit and loss, and the companies have the option of charging such depreciation in the same manner before the equipment is retired. The effect of thus debiting these retroactive depreciation charges to profit and loss rather than to operating expenses is to write down the investment shown in the property account without providing for an equivalent increase in other assets. Instead the amount is deducted from the accumulated surplus (or added to the accumulated deficit) of the company. This does not affect annual earnings and it will not often affect dividends. This method of disposing of retroactive depreciation charges tends to bring the whole property account, so far as it represents wasting assets, into line with the new requirements.

But it will be many years at best before the property accounts of most American railroads will have much significance, apart from that attached to their annual fluctuations. For railroads, as for lesser public utilities, the sum of permanent investments on which earnings are to be permitted can rarely be ascertained from the printed balance sheet. This being the case, there is no reason why either the Commission or the courts should consider these new accounting devices as throwing any light on the amount of the investment up to July 1, 1907. The retroactive part of the depreciation charges should have no bearing upon the valuation of railroad properties. In the long run there will be no

substantial injustice to the railroads so long as the depreciation accounts remain merely a device for helping to determine what portion of gross earnings shall be available for distribution as net earnings.

This brings us back to our main problem. The significance of our lengthy digression into the matter of accounting regulations should now be apparent. To diminish the valuation of a railroad or other public service property on account of depreciation is to assume that depreciation should have been charged on each item of plant and equipment from its first installation. If the accounts of the company had been subject to regulation from the beginning, and if the accounting regulations had provided for depreciation charges, no exception could be taken to the recognition of depreciation as an element to be taken into account in valuation. But in such a case valuation would be unnecessary. The accounts would tell the story. Lacking such accounts we turn, perforce, to the value (there is no better word) of the tangible properties as affording about the only available evidence of the amount of investment entitled to a return. If the company has not set apart some of its annual earnings on account of depreciation, shall we assume that it should have done so, and scale down the value of the property accordingly?

With the exception of the St. Louis Public Service Commission all of the commissions that have squarely faced this question have answered in the affirmative. So has the United States Supreme Court. But the St. Louis Commission, in the cases previously cited,¹ has held that if replacements and renewals have been properly attended to, no deduction for depreciation should be made. To assume that a company should

¹ *Supra*, p. 632, note.

have provided for a depreciation reserve over and above its provision for replacements is, in effect, to assume that the absence of such a provision means that some of the investment has been returned to the stockholders along with their ordinary profits. To inquire into this last matter, says the St. Louis Commission, is virtually to regulate past profits — and that task it refuses to attempt.

This conclusion of the St. Louis Commission is, of course, in line with the general results of our analysis of depreciation charges. The case for the position of the St. Louis Commission seems to be stronger, however, if we put aside the difficult questions suggested by the reference to the possible regulation of past profits, and again recall (1) that "income" and "repayment of principal" are not, in fact, easily separable, and (2) that the expectations of the investors as to the expense of maintaining the invested capital intact may properly be taken as a criterion, provided that the plans thus made and followed are adequate to maintain the productive efficiency of the plant and equipment and are in harmony with both prevailing business practice and current legal decisions.

But the contrary view is the usual one. The opinions of the Wisconsin Railroad Commission may be taken as representative, since that body was a pioneer in this field and its precedents have been largely followed by other commissions. In one of its leading cases it has held as follows:

Depreciation may be described as the amount that must be regularly set aside to cover wear and tear, etc., in order to keep the original investment intact. It is an operating expense and should be borne by the customers through the rates paid by them for the services rendered by the utility. But when depreciation is so borne by them, it should be set aside until needed for the renewal of worn out or useless parts of the plants. If under these conditions it is not so set

aside and used, but diverted to the stockholders for their use or personal benefit, this diversion is tantamount to the payment of dividends out of the capital. It simply means that the money contributed by the consumers for the upkeep of the plant and the investment has been paid over to the stockholders instead of being devoted to the purposes for which it was properly intended. It can mean nothing else. Since depreciation, in a sense, is intended to keep the investment intact, it necessarily follows that by turning it over to the stockholders, a part of their capital is in reality returned to them, and that this, in turn, is reducing their investment in the plant. Since their investment is thus reduced, it would also seem that there should be corresponding reductions in the amount upon which the rates paid by the consumers are based. There would certainly seem to be instances where no other course would be equitable all around, unless the capital that has thus been withdrawn by the stockholders is restored to the depreciation fund. Investors no more than any one else can both eat their cake and have it. Equal justice between investors and customers requires that under normal conditions the rates paid by the latter should be high enough to meet all reasonable costs and to keep the investment intact. Under such conditions justice also requires that the amounts thus paid by the customers should be devoted to the purposes for which they were properly intended. Deviations from this should not, as a rule, become a charge against the consumers. If the stockholders, instead of keeping up the plant, have appropriated for their own use the money contributed by the consumers for this purpose, the amount so appropriated should either be returned to the depreciation fund or deducted from the valuation upon which the rates are based.¹

This argument begs the question. It assumes that unless a useless depreciation reserve is accumulated, money contributed by consumers has been put into the pockets of stockholders as a virtual repayment of some of the capital originally invested. We have seen that such an assumption is unwarranted. Further examination of the opinion of the Wisconsin Commission in the same case shows that that Commission was confusing depreciation for replacements with physical depreciation as measured by the lapse of time. The opinion states that "as depreciation is constantly going on,

¹ *Hill v. Antigo Water Co.*, 3 W. R. C. R. 641.

the charges by which it is covered should also be regular. That is, a sufficient amount of money should be set aside each year to cover the cost of replacing each part of the plant as it becomes useless or unfit for further use." Evidently the Wisconsin Commission regards depreciation sufficient to cover replacement as entirely adequate. It fails to see that if a public service property has been properly maintained, all depreciation necessary to replacements is automatically absorbed by replacements and renewals themselves, and that the further accumulation of a depreciation reserve, useless for replacement purposes, is a burden which it is neither necessary nor just to assume should have been self-imposed by the companies.

Further inconsistencies are found in other opinions of the Wisconsin Commission. Thus we find in the case of *State Journal Printing Co. v. Madison Gas and Electric Co.*:¹ "In the long run the total renewals should amount to the total depreciation, but for any given period there may be wide differences between them. During the earlier years of the life of the plant the depreciation is likely to be the greater. During some at least of the subsequent years the renewals are apt to be the greater." Not only this definite statement, but the general run of the opinion in the case, indicate that the Wisconsin Commission seems to think that a depreciation reserve is something which will sooner or later in the normal course of events be needed for replacements or renewals. We have seen that such is not the case. The Wisconsin Commission's decisions on this matter can be given little weight, for they are based upon an erroneous conception of the facts. In a more recent case² the same Commission says, "the

¹ 4 W. R. C. R. 560.

² *King v. Wisconsin Telephone Co.*, 10 W. R. C. R. 521.

depreciation reserve should ordinarily be sufficient to provide for wear and tear, obsolescence, and inadequacy," but in their actual valuation work the Commission insists that the depreciation reserve shall in effect be much larger than this — larger in fact by practically the whole amount of the sum deducted from the valuation on account of "depreciation."

In the decisions of the Supreme Court we find precisely the same inconsistencies.¹ In its first definite pronouncement on this point² the Court held: "The cost of reproduction new is one way of ascertaining the present value of a plant like a water company, but that test would lead to obviously incorrect results, if the cost of reproduction is not diminished by the depreciation which has come from age and use." But it is important to know the reasoning on which this conclusion rested. This is given in another part of the opinion:

A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they come to

¹ Quite apart from the matter of the accuracy of the Court's interpretation of the facts there is room to surmise that its decisions have been given undue weight by state commissions. The general attitude toward such matters taken by the Court — burdened with the duty of regarding rates established by legislatures or commissions as *prima facie* reasonable and just — is very different from that which would naturally be taken by a commission, charged with the duty of doing even-handed justice as between public utility companies on the one hand and the consumers of their products or services on the other. The Supreme Court has decided merely that prescribed rates which may not perhaps give a fair rate of return upon values measured by cost of reproduction new, without allowance for depreciation, are not on that account so surely and definitely confiscatory that they must be declared unconstitutional. A bald declaration like "when the estimate of value is made on the cost of reproduction new, the extent of existing depreciation should be shown and deducted" (230 U. S. 457) should not be isolated from its proper context nor interpreted without due regard to the necessary difference between the factors which control the decision of the Supreme Court of the United States in passing upon the constitutionality of state legislation and those other factors which should control the decision of a public utility commission in determining a reasonable level of rates.

² *Knoxville v. Knoxville Water Co.*, 212 U. S. 7 (1909).

the end of their life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public. If a different course were pursued the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization — a tendency which would inevitably lead to disaster either to the stockholders or to the public, or both. If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon over-issues of securities or of omissions to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question the true value then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past.

So far as this means that a company should not be allowed to add the cost of replacements to its capital account, it would command general assent. But so far as it means that a "reserve for accrued depreciation" should have been maintained or (what comes to the same thing) that public service property should be "depreciated" in a valuation, it defeats its own purposes. The gist of the argument is that depreciation should have been counted from the beginning *in order to provide for replacements*. But we have seen that as a rule a reserve for accrued depreciation cannot be absorbed by replacements. To deduct from gross valuation on account of depreciation is to assume implicitly that depreciation charges should have been *more than adequate* to cover replacement, the surplus being measured (in general) by about the whole amount of the deduction. The Supreme Court has fallen into

the same *error of fact* which entrapped the Wisconsin Commission. The deduction for depreciation cannot be justified by appealing to the necessity of providing for replacements.¹

The present paper has been concerned only with the fundamental principles of depreciation as related to the problems of valuation for purposes of rate control. For simplicity's sake the only sort of depreciation that has been considered is that common and universal sort which is measured by the approach of the time when, in the normal course of events, replacements will have to be made. And the public service properties which we have had in mind are sufficiently large and varied to give the necessary validity to the assumption that depreciation accruals and replacements come in fairly regular amounts in successive years.

There are many cases which these general assumptions do not fit and for which our conclusions have to be correspondingly modified. In a small railroad the cost of a certain bridge may be a disproportionately large item, and it may be impossible to replace it from earnings except by the gradual accumulation of a depreciation reserve. In the valuation of such a railroad an allowance should be made for the depreciation of the bridge. So with small public utilities for which the power plant or some other wasting asset may be of dominating importance. But the principle of such exceptions is simple.

Nothing has been said about "depreciation for obsolescence." Obsolescence is unlike depreciation by reason of age because it cannot be foretold in advance —

¹ In *The Minnesota Rate Cases* (230 U. S. 352), decided in 1913, the Court again ruled that allowance for depreciation should be made in a valuation based on cost of reproduction. In support of the ruling it merely cited the opinion in the *Knorrville case*.

even as an average for a group of items. Obsolescence, then, is a matter of fact, not of formula. Any reserve established to cover losses on account of obsolescence is really a special contingency reserve, — more closely analogous to an insurance fund than to an ordinary depreciation reserve. Whether allowance should be made for obsolescence in valuation procedure is quite a different question from that which we have been considering and its answer involves considerations that lie outside the scope of the present paper.¹

Summarized, our conclusions then are:

1. If depreciation charges have not been required by public authority, it cannot be assumed that the proprietors of a large public service undertaking should have accumulated a reserve for accrued depreciation.
2. The absence of such a reserve does not necessarily mean that part of the principal of the investment has been returned to the proprietors.
3. In valuation for purposes of rate control no deduction should be made on account of the depreciation of large and varied properties, except for depreciation allocated to a period in which depreciation accruals were regularly charged to operating expenses.

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¹ The relative merits of different methods of apportioning depreciation among the years of life of an item of equipment have also been passed over. For convenience it has been assumed that depreciation charges, if imposed at all, are to be apportioned by the "straight-line method" (equal annual increments). But the argument is quite independent of this assumption.

THE TRUST PROBLEM

SUMMARY

III. Difficulty of limiting the number and scope of trusts under a policy of regulation, 665. — Regulation implies fixing of prices or profits, or both, 668. — Difficulties of cost accounting, 670; of fluctuations in demand, 671. — Railroad regulation by the Interstate Commerce Commission proves nothing for trust regulation, 672. — The policy a stepping stone to socialism, 675.

IV. The alleged advantages of combinations, 677. — Desire to secure monopoly and promoter's profits in fact the cause of combinations, 678. — A monopolistic combination not necessarily more efficient than a limited one, 679. — Inductive evidence inconclusive, 680. — General reasoning, on advantages from magnitude of operations, 685; from combination as such, 686; from elimination of competition, 689. — Monopoly tends to stagnation, 695. — Summary of conclusions, 696.

III. ULTIMATE RESULTS OF PERMITTING AND REGULATING COMBINATIONS

IN the preceding lectures (printed in this Journal for May, 1914) we have undertaken to show that it is necessary either to prohibit and destroy the trusts and pools or to regulate their prices and profits. Merely to prohibit unfair competitive methods and to deprive combinations of special privileges would not, in all probability, remove their power to extort monopoly prices. We further sought to show that it is possible to prevent the formation of combinations having effective monopoly power, and possible also in large measure to break up such combinations as already exist. The American people, therefore, are in a position to choose between the policy of regulating permitted trusts and pools, and the policy of prohibiting and

destroying them. In making this choice they must first consider what would be the difficulties and what the probable results of a policy of regulation. They must then consider whether the advantages of combinations from the standpoint of efficiency and economy are great enough to justify permitting them to exist despite the difficulties of regulating them.

Few of those who have advocated the policy of permitting combinations to exist subject to regulation by the government seem to have given much thought to the magnitude of such a task, its difficulties, or its ultimate outcome. They have had in mind the comparatively few closely knit trusts of the present time, or possibly only a part of those trusts. They have had in mind particularly the so-called "good" trusts with their alleged superior efficiency and their more or less reasonable policy toward the public.

In the first place, it would be difficult to limit the number of trusts under such a policy. It is, of course, conceivable that the government should undertake to suppress combinations in general, while permitting a few particular trusts to exist. A limited number of trusts might be tolerated, not because of the good motives or exceptional ability of their managers, but because of special economic characteristics of the industries concerned which tended to make combination particularly economical or to make the maintenance of competition peculiarly difficult. Such a plan would not necessarily lead to unreasonable discrimination between individuals and classes, tho to determine what were the extraordinary conditions justifying the existence of a trust would be extremely hard. If, however, the people once concede the right of a monopolistic combination to exist, independently of extraordinary conditions, a sense of justice should apparently compel

them to permit combinations *ad libitum*. What is sauce for the goose is sauce for the gander. Under no theory of justice could all the trusts heretofore organized be permitted to continue without granting permission to organize trusts in every other field. Moreover, if the government permitted trusts freely to organize, it would have to permit pools also, at least until it was demonstrated that the trusts had material economies and other advantages and that the pools had no such advantages.

In the second place, it would seem that if combinations having power to restrain trade are to be permitted at all, they must be permitted to become as comprehensive as they desire. Why should a combination not be allowed to take over 100 per cent of the business in its field quite as readily as 90 or 80 or 70 per cent? Very few persons desire to prohibit combinations which control only a small proportion of a given industry and which possess no possible monopoly power; but if we permit that limit to be overstepped at all, there is no limit.

One can only speculate how numerous and how comprehensive the trusts and pools would become if the policy were adopted of permitting them freely but subjecting them to regulation. Presumably the disinclination to submit themselves to government regulation would prevent business men from forming combinations as universally as they would if combinations were permitted without regulation. It is quite possible that the field of combination would become immensely great. In all probability it would become far greater than at present. Beyond question, moreover, every combination, unless prevented by the government, would take in just as large a proportion of the trade as could be persuaded to enter it. In many cases this would mean the entire trade.

If combinations were freely permitted and no limit placed upon their magnitude, neither actual nor potential competition would be an adequate check upon prices and charges for service. This was, I think, sufficiently demonstrated in the first lecture. Government regulation would unquestionably be necessary.

Some have suggested that regulation would be comparatively simple. Good trusts would be left alone and only bad trusts interfered with, and the fear of government intervention would make most of the trusts good. The government, some seem to think, could let the trust go its own way until it was proved to have become extortionate or to have used unfair competitive methods, and could then step in and punish its officers, or suspend its right to do business for a season, or even dissolve it altogether. Such a course is fundamentally inconsistent with the principle of permitting combinations at all. How is the trust manager to know in advance what prices or what practices will be adjudged so unreasonable as to call for criminal prosecution? What advantage would there be in breaking up a trust the first time it went too far, if another trust could be formed in its place the next day? It would be intolerable to the users of the products or the services of a trust to stop its business, even temporarily, as a punishment for unreasonable prices or unfair methods of competition. A good trust may become a bad trust overnight. Shall it be a lawful organization today and an outlawed wreck tomorrow? Regulation of combinations implies continuity of the combinations.

Even if the government adopted the policy of punishing trust managers or breaking up combinations, as a penalty for extortionate prices and unfair practices, it would require almost as thoro and continuous investigation and quite as difficult judgment on the part of the

government to determine when to inflict such penalties as to determine the proper prices and practices for the future. It would be most unjust to take drastic action against a trust or its managers without possession of most detailed knowledge of all the conditions.

In its very essence, however, regulation implies, not punishment of past action, but prescription of future action. This means simply that the government, if it undertakes to regulate the trusts and combinations, will ultimately have to fix their prices or limit their profits, or both. After all, the one thing in which the general public is interested is the reasonableness of prices and charges. The prevention of combinations in restraint of trade and of unfair competitive methods are not ends in themselves. There is no way to insure reasonable prices under monopoly except to restrict them, — to fix them outright, or to limit the profits in such a way as to remove the incentive to unreasonable prices.

If the government enters upon the policy of fixing prices and profits strictly, ought it not to go a step further and guarantee to the combinations a permanent monopoly, protecting them against competition? It has long been urged by the owners of railroads and other public service industries that justice to investors demands protection against competition as a concomitant of regulation of rates and charges. The public has been gradually coming to accept this view. If for a series of years the investor in trust securities has had his profits held down to a low percentage by government regulation, it is hardly fair for the government to permit those profits to be still further lowered, perhaps wholly destroyed, by the advent of a competitor.

Whatever might be the outcome of government regulation in this respect, there can be no doubt of the

immense difficulty of just and efficient regulation of the prices or the profits of industrial combinations. As already shown, the field to be covered by regulation would probably be exceedingly wide and diverse. The federal government and the states would have to maintain elaborate and powerful machinery to control the combinations. The task of regulation could not possibly be left to the courts, lacking as they are in the necessary machinery for investigation and occupied as they are with many other duties.

Consider for a moment the nature of the task which would confront such an administrative body. In the first place, it would have to possess at all times detailed information regarding all the concerns under its jurisdiction. It could not rest content with making special investigations from time to time on its own initiative or on complaint. Railroad rates and the charges of public service corporations are ordinarily comparatively stable, and properly so; but the prices of many other commodities, if not of most, are necessarily variable. The costs of materials may change greatly and rapidly. The conditions of demand are changeable. Grave injury might be done to the public during the time required for securing information on which to base action if such information were not continuously in the possession of the regulating authority. Even annual reports would not always be adequate; quarterly or monthly data might be required.

In the second place, the amount of detail involved would be enormous. A proper fixing of prices would require complete knowledge of the costs of production and of the amount of investment. In order to make sure of obtaining accurate information, the government would have to prescribe the methods of accounting. It would be impossible to prescribe uniform methods, as

is done by the Interstate Commerce Commission in the case of the railroads. The bewildering variety of conditions in the different industries would have to be provided for. On the basis of accounting methods thus prescribed, detailed reports would have to be made to the government and these would have to be scrutinized and studied with utmost care. The federal government particularly would have to employ a vast corps of expert accountants, statisticians, and specialists familiar with the peculiar conditions in the different industries.

The difficulties of cost accounting are so great that many even of the largest business concerns have found it impossible to ascertain the costs of their products on scientific principles, or at any rate have considered it not worth while to incur the necessary expenses for that purpose. The business concern can get along without accurate knowledge of its own costs. Its prime interest is in demand and in profits. The government, however, in fixing prices, must know all about costs — both operating costs and capital charges. They are the very things which primarily determine the reasonableness of prices. The limiting of profits would require somewhat less detailed information than the limiting of prices, but would still require a vast mass of data.

In the third place, the determination of costs and of investment for the purpose of fixing prices or profits would involve immensely difficult problems of judgment. The judgment of the regulating body would be constantly challenged by the combinations and the probable result would be endless litigation. The proper allowance for depreciation and obsolescence, the proper apportionment of overhead charges among different products and services, the proper methods of valuing the different elements of investment, — these and

similar matters would have to be passed upon by the regulating authority. Such problems are difficult enough as they confront the Interstate Commerce Commission, which has to deal with one kind of business only. They would be far more difficult for a body dealing with multifarious combinations in widely differing industries.

Even if the regulating authority should succeed in working out a satisfactory determination of costs of production and value of investment, it would still be beset with troubles in fixing prices or limiting profits. Demand for goods is variable even in non-competitive industries. Even if the combinations should be protected against competition from domestic concerns, foreign concerns would have to be reckoned with. Unchanging prices or prices bearing an unchanging relation to costs would not be practicable in mining, manufacturing and mercantile business. A combination might at times be justified in reducing prices and consequently profits below a normal level in order to stimulate demand and keep its force employed, or in order to meet foreign competition. The government would have then to determine to what limit prices or profits could subsequently be advanced in order to offset these reductions. In other words, the government would be dealing with a constantly changing problem of demand, just as the manager of any private business does. Particularly difficult would be the fixing of proper prices for products produced at joint cost. Take petroleum, for example. A wide variety of commodities are derived from the one raw material, crude oil. Some of these are in so little demand that they must be sold for less than the price of crude oil itself. Others are in great demand and can be sold for high prices. It is impossible to use cost as a basis for deter-

mining prices of the specific products. The relative demand for the several products varies from day to day. For a regulating body to determine the proper relationship of the prices of these joint products is virtually impossible. This and several other important industries would have to be regulated, if at all, by limiting profits rather than prices.

It is sometimes suggested that the same problem of joint costs confronts the Interstate Commerce Commission with respect to the relative freight rates on different commodities. It should be noted, however, that after making due allowance for actual and measurable differences in the cost of transporting different commodities, the Commission could, without actually destroying railroad business, fix precisely the same rate per unit for every class of commodities. Such a policy is by no means unthinkable and might be better than the often extraordinary differences which now exist. For petroleum products on the other hand — and the same is true of a good many other products similarly produced under joint cost — flat prices would be absolutely impossible. Furthermore, it cannot be said that the Interstate Commerce Commission has satisfactorily solved the problem of fixing relative rates on different commodities. It has in fact left that problem almost untouched, and if it ever does enter seriously upon it, the Commission may find difficulties practically insuperable.

One could continue almost indefinitely setting forth the complexities and difficulties of government regulation of the prices and profits of combinations. Most people feel that for the government actually to fix definite prices for a multitude of industries, or even to limit their profits specifically, would be impracticable. Many advocates of government regulation hope some-

how to get along in a more rough and ready manner. They vaguely contemplate a vague form of regulation. They expect the government to exercise a general restraining influence, to intervene occasionally and to render its judgments in a more or less hit and miss fashion. They hope that with the hand of the government resting upon them, as it were, in a general sort of way, and with potential competition also exercising some restraining influence, the combinations for the most part will behave themselves decently. They count upon the alleged superior efficiency of the trusts in production and marketing to counterbalance the ineffectiveness and incompleteness of regulation.

Doubtless we could get along after a fashion with such a superficial form of regulation as this. It would be difficult, however, to prove that the public would be any better off under such a régime of half-regulated monopoly than under a régime of competition enforced as well as possible by laws against combinations and monopolies. Remove once the fear of penalties or of dissolution, and the combinations would always be crowding the limit of public tolerance. On the average, and in the long run, their prices and charges might not be greatly above a fair level, but they would almost certainly be somewhat above that level. Combination must be proved decidedly more efficient than competition before the people would be justified in trusting trusts under any but most rigid government control.

The work of the Interstate Commerce Commission in regulating railroads is often held up as demonstrating the practicability of successful government regulation of trusts. It has already been shown, however, that the regulation of trusts would be a much more complex task than the regulation of railroads. Moreover, with all due respect to the great intelligence and fairness

with which the Interstate Commerce Commission has discharged its duties, we may yet question whether the ability of the Commission to regulate the railroads satisfactorily has been put to a final test. The Commission has thus far been concerned chiefly with the relationship of rates between different places. It has corrected many abuses in this respect, tho many still remain. As already stated, it has done very little to change the relation between the rates on different commodities, a relation which is often unreasonable. The commission has never had to face the problem of reducing the general level of rates for all railroads or for any particular railroad. The enormous increase in the volume of traffic during recent years would have enabled the railroads to obtain altogether unreasonable profits under existing rates, had it not been for the coincidence of a great advance in the prices of commodities and in the costs of railroad operation. Had this not happened, the Commission would have been called upon to reduce rates in a wholesale manner and it would have found that task immensely complicated, besides encountering tremendous opposition from the railroads and the many who sympathize with them. The task just now before the Commission, of determining whether, or by how much, railroads shall be permitted to advance rates is a far easier task than that of compelling a general lowering of rates.

Government regulation of prices and profits of private concerns always involves a large element of waste, of duplication of energy and cost. It means that two sets of persons are concerning themselves with the same work. The managers and employees of the corporations must study cost accounting and conditions of demand in determining price policy. The officers and employees of the government must follow and do it all

over again. Moreover, the fact that these two sets of persons have different motives in approaching their work means friction and litigation, and these spell further expense. To superimpose a vast governmental machinery upon the vast machinery of private business is an extravagance which should be avoided if it is possible to do so.

The policy of government regulation of industry may readily become a stepping stone to government ownership and socialism. The chances are strong that the government of the United States will take over the telegraphs and telephones in the near future and the railroads within less than quarter of a century. The demand for government ownership of these as well as of municipal public utilities may come from various sources. If regulation by the government proves ineffective in securing reasonable rates and charges, the general public will demand government ownership. If regulation proves so effective as to leave only moderate returns to the stockholders of the corporations, the stockholders are likely to urge government purchase, which would at least assure them of a more certain income. In either case the excessive cost of government regulation will be urged as a reason for government ownership. In the same way, if the government undertakes detailed regulation of combinations in manufacturing, mining and trade, there is bound to be a strong movement for government ownership in these fields also.

Government ownership of this or that industry is not necessarily a bad thing. Even government ownership of a large proportion of the industries of the country, nay, even complete socialism, need not necessarily affright us. To discuss the merits of government ownership would take us too far afield. It is sufficient

merely to point out that the people ought not to enter on the path of permitting and regulating combinations without considering the advantages and disadvantages of this, the possible ultimate outcome, as well as those of the immediate policy itself. If it could be proved that combination is materially more economical than competition, we should doubtless be wise to say farewell to competition. Presumably in that case we ought to test thoroly the practicability of government regulation of private monopoly before proceeding further. The people would naturally first try the plan of government ownership, if at all, in limited fields, and compare the results with those under regulated monopoly before undertaking general government ownership. It is by no means improbable that the ultimate outcome would be socialism. The future is very likely to see either a régime of general competition — with, of course, some special exceptions — or a régime of universal communism. Clearly then we should be very sure of our ground before we take the first step toward possible communism. We should convince ourselves beyond all doubt that competition is impossible; or that, if possible, it is less efficient than monopoly, — not merely at certain times and in certain places, but generally and permanently, — before we tolerate widespread combination in the field of business.

We have not referred here to the effects of regulation upon the trusts themselves. We have considered only the difficulties which the government would encounter in an attempt to regulate trusts. It is quite possible that regulation would largely destroy that very efficiency which is held up as the reason for permitting them to exist. The discussion of this topic, however, belongs more properly with the next lecture, in which the alleged superior efficiency of trusts will be considered in detail.

IV. THE ALLEGED ADVANTAGES OF COMBINATION

In the preceding lecture we have tried to show that regulation of the prices and profits of trusts and pools would involve much difficulty. Nevertheless, if it could be shown that combinations controlling a large proportion of their respective industries were necessary to secure the highest economy and efficiency, and possessed other economic advantages, the proper course would be to permit such combinations, while subjecting them to regulation.

Claims of this sort are put forth with much vigor in behalf of the trusts. We are told by many that the trust is a natural evolution, that it is the last word in industrial progress, that to destroy it would be to turn the hands of the clock backward. Let us restrict monopolistic greed, they say; let us, if necessary, destroy the bad trusts; but let us not lose the advantages of good and efficient trusts. Some go further and descant on the evils, nay, the immorality, of competition, the superiority of peace over the sword in industry as in international politics. War is hell; competition is war, say they.

The claim that the trust possesses superior efficiency deserves thoro and fair consideration. The assertion that the desire for greater efficiency was the primary motive in the organization of the trusts, however, is not in accordance with the facts. The trust was far from being a natural sequence in the progress of methods of production. In a sense, everything that happens in economic history is a natural evolution. It is due to the working of laws. But in the sense in which trust defenders use the phrase, the trust movement in the United

States was anything but a natural evolution. It was essentially artificial. The basic motive for the organization of most trusts was to suppress competition, to maintain or advance prices. Hostile criticism from without was met by the proclamation of other motives and the prophecy of other results. Within the camp, talk was all of the advantages of checking competition. That was the appeal to the owners of the concerns which were invited to enter the fold. That was the appeal to the investors in securities. Indeed, many of the leaders in the trust movement admitted frankly to the public — before the Industrial Commission of 1899, for example — that desire to check so-called destructive competition was their original incentive.

A second important factor in the organization of trusts, particularly during the most active period of trust formation from 1898 to 1901, was the desire for profits of promotion and of speculation. The promoter with his glib tongue and glowing prospectus was very much in evidence. There was a craze for combinations among business men and investors. Over-capitalization was a practically universal feature of the corporate combinations of this period. Over-capitalization was designed in part to conceal from the public the profits of operation. Even more, its purpose was to help promoters unload properties upon the investing public at high valuations.

The fact that the trust movement was largely based on illegitimate motives and fostered by artificial methods does not demonstrate that trusts are disadvantageous to the general public, but it should at least dim the halo of sanctity with which some seek to surround them. It places them on the defensive.

The main argument in favor of the trusts, their supposed superior efficiency and economy, can scarcely

be advanced in behalf of the pools. To affect costs materially, the combination must control fully all the operations of its constituent concerns. This the pool does not attempt to do. In fact, very few of the advocates of trusts attempt to defend pools. Yet should the policy of permitting combinations to exist be adopted, it would be found difficult, constitutionally and practically, to draw a rigid line between permitted trusts and prohibited pools.

Most of the discussions of trust efficiency, whether based on statistics and other facts of experience or on general reasoning, do not go to the true issue and therefore do not prove anything. It has been assumed that to show that a great combination of plants is more efficient than a single plant is to show the desirability of trusts. Far from it. The advocate of trusts must prove further the superiority of the trust — that is, the combination sufficiently comprehensive to possess or at least to threaten monopolistic power — over the smaller combination possessing no possible monopolistic power. He must show either that combinations increase in efficiency merely with increase in magnitude, or that the elimination of competition itself is necessary to the highest efficiency. Very few propose to prohibit combinations altogether; usually it is only monopolistic or potentially monopolistic combinations that are attacked.

The investigations of trusts hitherto conducted have been quite inadequate to prove whether or not they are the most efficient organization for conducting business. It is sometimes argued, therefore, that the people should defer judgment regarding the trusts pending further investigation of their efficiency. Some go so far as to suggest that the government undertake to determine for each industry the exact point at which the

size of combinations reaches the limit of economy in production and marketing. It is doubtful whether further investigations along these lines would be especially instructive. Serious difficulties stand in the way of reaching definite conclusions from them.

Even an effort to compare the efficiency of a trust régime with that of a régime of strictly separate plants and entire absence of combination holds little prospect of success. An investigation on this point might be undertaken in either of three ways. It might compare conditions in a given industry before and after the formation of the trust. It might compare the business of the trust with that of independent concerns in the same industry at the same time. It might compare trusts with independent concerns in other industries. Either of these methods of investigation encounters great obstacles from lack of cost data. So difficult is it to calculate costs accurately that many concerns, particularly those operating only a single plant, have not yet undertaken thoro-going cost accounting. Very few, indeed, of the plants which entered into the trusts had satisfactory cost accounts before that time and such accounts as did exist are in most cases no longer accessible.

But suppose by following the first of the methods of inquiry above mentioned it should be shown that, after taking into account changes in the prices of materials and in wages, a trust today was doing business more cheaply than its predecessor concerns ten or fifteen or twenty years ago. Would that prove the increase in efficiency to be due to combination? Efficiency has advanced also in industries where no combinations have been organized. This is the era of the cost accountant and the efficiency engineer. During recent years business men inside and outside of combinations have

been applying themselves to bettering methods more assiduously than ever before. Increased size of plants, larger and better machinery, better methods of organization are characteristic of practically every industry. The census statistics as to the average number of employees and of horse power per establishment seem to indicate that, while increase in average size of plants is perhaps more conspicuous in industries where the trusts are prominent, there is no marked difference between these industries and others in that respect.

Again, even if adequate data could be secured for an accurate comparison of the efficiency of a trust with that of its present single-plant competitors, this would not prove the advantage of a trust régime over a régime of separate plants. The inefficiency of the independent concerns may be due to the presence of the trust. The combination at its inception may have taken in all the larger and more efficient plants then existing. The fear of the trust, and the actual effect of its competition, fair or unfair, may have prevented the development of large competing concerns thereafter. The Standard Oil Company did produce more economically than its competitors. But who that is familiar with the outrageous tactics of the Standard toward competitors can attribute that fact wholly to the superiority of combination over competition? Had no trust been formed in the oil industry there would certainly have developed by this time a number of large separate concerns, each with a considerable degree of integration, and with efficiency at least not greatly inferior to that of the Standard Oil Company.

In a few industries — the steel industry, for example — there are today comparatively large single-plant concerns standing side by side with combinations. Comparisons between them and the combinations with

respect to efficiency would be fair. It is unfortunate that the Bureau of Corporations, in its desire to protect the privacy of business, was unable to present the information which it possessed about the steel industry in such a way as to permit comparisons of this character. It can only be said that its report discloses wide variations in cost of production among the individual plants of the Steel Corporation itself. It is more than probable that some of the independent concerns are superior in efficiency to the less efficient plants of the Steel Corporation, and quite likely that they compare favorably even with the most efficient of those plants. Such concerns as Jones & Laughlin, the Lackawanna Steel Company, and the Cambria Steel Company are not weaklings. They have many millions of capital and a great output. They practise integration of related stages of production to a large extent. Their plants are largely new and up to date. The Lackawanna Steel Company at Buffalo preceded the Steel Corporation in the extensive use of the by-product coke oven, one of the most important of the modern forms of economy in the steel industry. Blast furnaces of Jones & Laughlin are among the record-holders for size and efficiency.

Finally, it is obviously very difficult to judge of the advantages of combination in production and marketing by comparing the business of combinations with that of single plants in other industries. The differences in the subject matter of production and in the conditions would in most cases render such comparisons of little value.

In view of these difficulties, it is certain that detailed investigations regarding the relative efficiency of trusts and single plants, even if they covered the entire field of industry, would result only in disagreement among the people as to the conclusions to be drawn. It would

probably be proved clearly enough that certain particular trusts were highly efficient. We might convince ourselves, not only that they were more efficient than the best of the predecessor concerns, or than the best of the present competing concerns, but also that they were more efficient even than such individual plants as might have come into existence in the absence of combination. In other industries, however, no such demonstration would be possible. The investigations would still leave doubt as to whether the trust in general was superior in efficiency to the separate plant.

But suppose, for purposes of argument, it should be demonstrated that in general the trust was more efficient than the individual plant. We should still have failed to show the superiority of the trust over the less extensive combination having no possibility of monopolistic power. That question could scarcely be attacked at all by statistical investigation of present or past conditions. The basis for comparisons does not exist. In very few industries did combination on a limited scale precede monopolistic combination on a large scale. In still fewer industries have there existed, side by side, a combination controlling the greater part of the business and another combination or combinations having only a minor fraction of the business. Comparison between the trust in one industry and the smaller combination in another industry would usually lead to no definite conclusions.

The fact is that we have had comparatively little experience with combinations other than trusts and pools of a more or less monopolistic character. If the desire to secure increased efficiency had been the only motive of business men in forming combinations, we might have witnessed a large number of combinations having no controlling proportion of the business in their

respective fields. But since the main object was to suppress competition, combinations of a more comprehensive character sprang at once out of the régime of separate plants.

There is no objection to further investigation regarding trust efficiency, provided it is not made an excuse for deferring action as to the dissolution of trusts. A wide-reaching investigation of trust efficiency would require not less than ten years. Every year that trusts are permitted to continue renders it more difficult to restore competition among their constituent concerns. The officers and managers year by year become more accustomed to working together; the organization year by year becomes more welded into an inseparable unit. The shock to business from breaking up combinations also will become more severe the longer it is deferred.

Since there are thus no adequate existing data on which to base conclusions as to the advantages of trusts from the standpoint of efficiency, we are forced to fall back upon general reasoning. The theoretical advantages claimed for the trusts by their defenders naturally fall into three groups — those attributable to mere magnitude, those attributable to combination of separate plants, and those attributable to the elimination of competition. The failure to make this obvious classification is the source of much fallacious thinking. Only advantages of the third class can properly be put forward as directly proving the desirability of trusts that possess a controlling proportion of the industry in which they are engaged.

The following are some of the advantages claimed for trusts which, so far as they exist at all, exist solely by reason of the magnitude of their business.

1. Command of the largest and most efficient units of production — buildings, power plants and machinery.

2. Command of large liquid capital and credit, enabling the concern to meet emergencies and to take advantage of special opportunities.

3. Command of superior administrative and technical ability.

4. Economy in the purchase of raw material and supplies in large quantities.

5. Distribution of administrative and other overhead expenses and of selling and advertising expenses over a large output, thus reducing unit costs.

6. Practicability of introducing efficient accounting systems too expensive for smaller concerns.

Any concern, if sufficiently large, can possess all these advantages. Magnitude of operation is purely a relative term. In minor industries, only a concern which has the greater part of the entire business can be considered large. In great industries the concern which has only a small fraction of the business may possess millions of capital, a vast plant and an army of employees. No one would think of denying that large scale operation has advantages over small scale operation. It does not follow that an industrial combination controlling the major part of a business will, by reason of size alone, be more efficient than a less extensive combination or even than a single large plant. Efficiency does not increase proportionately with size. It has been learned by the experience of business men that when the individual plant passes beyond a certain size, it ceases to gain in efficiency. The same causes which make this true of the individual plant apply to the combination of plants as well. There may be advantages from combination as such or from monopoly as such, but the advantages of mere magnitude have their limits. Moreover, when size passes beyond a certain point, it may even lessen efficiency. The unwieldiness

of a vast organization, the difficulty of securing coöperation among its parts, the impossibility of personal oversight by the master mind — these are disadvantages of excessive magnitude.

There may be some industries in which, from the standpoint of magnitude alone, the greatest efficiency would lie in a concern controlling virtually the entire business. There is little ground for believing that this is the case in the great majority of industries. At any rate it is utterly impossible, by general reasoning or by statistical investigation, to prove that it is so. Indeed, it would seem that in most industries a concern having even as much as half of the total business would, in respect to those elements of efficiency now under consideration, have no superiority over a somewhat smaller concern.

Another set of advantages claimed for trusts rests upon the fact of combination as such. These supposed advantages result from the assemblage of separate plants under a single control. They are not dependent on the elimination of competition. Among these are the following:

1. Use in all plants of the best methods and devices discovered in any one plant, comparative cost accounting rendering it possible to determine which are, in fact, the best.

2. Rivalry between the managers of different plants, stimulated by comparative cost accounts and other comparative data.

3. Saving in cross freights by shipping from the plant nearest to the desired destination.

4. Integration of industry — that is, the conduct of successive or related processes under a single management.

Combination undoubtedly does have its advantages. But combination, like magnitude, is a relative matter.

In a minor industry a combination of even a few plants may mean the bringing together of the larger proportion of the business. In another industry a combination including a considerable number of plants may have but a fraction of the total business. Any combination of plants, however few, can obtain the advantages specified in some degree. Just as economies of magnitude do not increase proportionately with magnitude, so economies of combination do not increase proportionally with the number of plants combined. There is a limit beyond which the addition of plants brings no further economy. Just where the limit is can be proved neither by abstract reasoning nor by statistical investigation. It is different in different industries. There is little reason to believe that in most industries a combination controlling the entire business would be appreciably superior, with respect to the elements of efficiency above mentioned, to a combination having a minor fraction of the business.

Take, for example, the matter of cross freights. In some industries freights are not an important element of expense. In others the location of materials, or of consuming markets, or like conditions, make it impossible to locate plants with a view to saving freight either on materials or products. There are, however, a good many industries in which scattered plants competing with one another incur much needless expense in transportation. In such industries a combination by shipping from the nearest plant could effect material savings. It does not follow that a combination of all the plants in the country could save more than a combination of a moderate number of well distributed plants.

Where an industry derives peculiar advantages from the integration of successive and related processes, combination on a large scale may be essential to the full realization of economies of this character. If in a

single one of the related branches of business the greatest efficiency requires the handling of a large part of the total business by a single organization, then it may be advantageous for the combination to conduct other branches of the business on a corresponding scale. There are, however, very few industries in which successful integration requires the control of the major part of the business by a single combination. In a good many instances a concern that has not more than a single plant engaged in each of the different stages of production has been able to secure an efficiency at least closely comparable with that of a wide-reaching combination. This is the case, for example, with several independent concerns in the steel industry and even with some of the recently developed independent concerns in the oil industry.

There is another economy sometimes claimed for the combination of separate plants, namely, that it is able to close down the inefficient plants and concentrate business in the largest and most modern. This, however, is not an advantage to the public. No combination, unless with monopolistic intent, would take in inefficient plants. The fact that a good many trusts have, shortly after their organization, dismantled numerous plants is proof simply of their monopolistic purpose. Under a régime of competition the inefficient plant will in due time be forced out of business and the public will no longer be burdened with supporting it. When a combination takes in an inefficient plant and dismantles it, the public pays the bill, provided the combination succeeds in obtaining a sufficient degree of monopoly power. The combination either charges prices high enough to enable it to write off the cost of such a plant out of its profits, or that cost is permanently represented by securities on which dividends are

expected to be paid. A combination which takes in a limited number of selected, efficient plants is in this respect far more conducive to economy than a monopolistic combination.

It thus appears probable that the economies claimed for the trusts could, in many if not most industries, be secured in approximately equal measure without permitting combinations sufficiently comprehensive to possess any approach to monopoly power. There remain those alleged economies of trusts which arise not from mere magnitude or from mere assembling of separate plants, but from the elimination of competition. These require more thoro consideration. They are few, namely:

1. Prevention of needless duplication of plants.
2. Elimination of that part of the cost of selling goods which results from the effort to secure business at the expense of competitors.
3. Elimination of waste due to irregularity of operation, and of the losses of so-called destructive competition.

Let us take these up in order:

1. It is contended that competition leads to excessive investment of capital, to the erection of plants with a capacity in excess of the needs of the country. This is true only in a very limited degree of ordinary mining, manufacturing, and commercial business. Such business differs radically from the so-called industries of increasing returns, such as transportation. In order that there shall be any rail transportation between two points, it is necessary to build a track which may have more than capacity enough for all the traffic. Under such conditions, the one railroad can increase its business without corresponding new investment. In fact, up to a certain limit, even the operating expenses of a

railroad do not increase proportionately with volume of business. The building of a second railroad under the conditions mentioned would mean unnecessary duplication of capital and perhaps also of the operating expenses.

In the case of the ordinary manufacturing industries it seldom happens that a single plant, however large, can supply the entire demand of the territory to which it has natural access. The construction of a second plant usually does not mean needless duplication of investment. The aggregate capacity of all plants is not likely to exceed materially the demand in times of prosperity. The desire of each competitor to be ready to get as large a share of the trade as possible may lead to some excess in plant capacity, but not to a great excess. Moreover, in manufacturing industries, even if there be some excess of plant capacity, operating expenses are not likely to be materially augmented. The plant working at less than full capacity can lessen its force more or less proportionately. Operating expenses vary fairly closely with output.

It must not be forgotten that the great majority of the industries of the country are steadily and rapidly growing. In industries where trusts are powerful, as well as in other industries, additional plant capacity is constantly being constructed, and additional working force taken on. Even if it were not for the growth of demand, the improvements in methods of production would necessitate the construction of new plants. The older and less efficient plants in a manufacturing industry ought not to be taken into account in judging the relation of plant capacity to demand.

The reasoning as to duplication of plant capacity which applies to manufacturing industries applies as well to mining and to mercantile business. There are

a few manufacturing industries in which it is customary for the manufacturer to conduct also some special form of transportation. Economy in such transportation may demand that duplication of plant be avoided, — that there be monopolistic operation. If the transportation business cannot be divorced from the manufacture, or subjected to separate regulation, monopolistic operation of the manufacturing business as well may be unavoidable or at least advantageous. For example, the Standard Oil Company and other leading refiners of petroleum operate pipe lines for transporting crude oil and also tank cars and tank wagons for delivering refined products. Needless duplication of plants and of operating expenses may be involved in competition in these two branches of the oil industry. Unless they can be divorced from the refining business proper, it may prove necessary to tolerate monopoly in petroleum refining. It has been proposed to require the owners of pipe lines, be they refiners or others, to transport oil as common carriers at reasonable charges to be fixed by the government. There are serious technical difficulties in the way, but it is probable that they could be overcome by special methods of government regulation. Whether it would be possible to manage the tank wagon delivery business in a similar way is more doubtful. Were it not for the extraordinary difficulty of regulating the prices of refined petroleum products, arising from the fact of joint cost, a simpler way of avoiding the evils of monopoly in the oil industry might be through such regulation of prices. Regulation of profits may be the most feasible plan of meeting the situation.

The Steel Corporation is also engaged in transportation. It operates railroads which to a large extent are patronized by its competitors, and it operates steam-

ships. To require the Steel Corporation to divest itself of its railroads—at least the more important lines which competitors may have occasion to use—would not materially lessen the efficiency of the integration secured by that corporation. Nor would there be any serious difficulty in effectively regulating the charges of such railroads if left in the control of the Steel Corporation. At any rate, the element of transportation in the steel industry is not a factor necessitating or justifying a combination of steel manufacturing plants of sufficient size to possess any approach to monopoly power.

2. It is contended further that competition means large waste in selling expenses, due to the endeavor of business concerns to wrest trade from one another through solicitation and advertising. This is doubtless true in some industries, but it is by no means equally true in all. Where the products of an industry are standard in character, are in steady demand, and are marketed through large middlemen or to large individual consumers, even the most vigorous competition in pushing the sale of goods involves no very great expense. In the case of certain other industries, heavy selling and advertising expenses are considered necessary by business men merely for the purpose of stimulating demand and regardless of competition. Concerns which have virtually a monopoly often spend great sums in advertising their wares. However, it must be admitted that in a good many industries competition in selling does mean some economic waste. The advantage of eliminating such waste can properly be set against the disadvantages of monopolistic control.

However, needless expense in selling goods is likely sooner or later to be reduced by informal understandings not amounting to monopolistic agreements. As the

competing concerns become larger and more efficient in production, their managers are likely to see the absurdity of trying to get all the trade away from one another.

3. Finally, it is contended that uncontrolled competition results in irregularity of consumption and consequently in irregularity of the operation of plants, which tends to increase costs as well as to injure the working classes and to disturb business generally. The most common illustration used to support this contention is that of the steel industry. It is urged that when by reason of active competition, prices are particularly low, the consumers of iron and steel and their cruder products buy excessive quantities and so discount their future needs as subsequently to result in very light demand. The plants in the industry, after being worked to their utmost capacity, may have to drop a large part of their force or even close altogether. Such irregularity in production is uneconomical. It has been maintained that the greater steadiness of prices since the organization of the United States Steel Corporation not only has tended to cheapen production but has been beneficial to consumers and to business generally.

It may well be questioned whether competition is as important a factor in causing irregularity of consumption of steel products as is sometimes supposed. The consumption of many of the more important products of iron and steel is necessarily variable. Those products are used primarily in the creation of new capital goods. The desire of men to invest in new capital goods varies greatly with the general conditions of prosperity or depression in business. The policy of the Steel Corporation in recent years has had less to do with the steadiness of demand for steel than the relatively continuous prosperity of the country.

If it were possible for trusts, when subjected to strict regulation by the government, to adjust supply accurately to demand, and to cause demand itself to be more steady, that fact would constitute an argument of considerable force in behalf of the policy of permitting trusts to exist subject to regulation. As already suggested, however, the task of the government in regulating prices for an industry subject to variable demand would be extraordinarily difficult. The efforts at doing so would probably prove far from successful in bringing about steadiness of production.

The argument with regard to the effect of competition in causing irregularity of consumption and of production is often extended further. It is urged that competition in modern industry tends to become so fierce as to destroy capital. So-called destructive competition, it is claimed, may bring even the most efficient concerns to bankruptcy. Such a result not only injures investors, but at least sometimes means actual waste of capital, and therefore, in the long run, injures consumers as well. Indeed, some believe that pools, tho possessing few advantages with respect to efficiency of production in other respects, are justifiable as means of preventing the losses of destructive competition.

The subject of destructive competition has been discussed in the second lecture with reference to its influence in driving concerns into combination. It was there shown that, in the great majority of manufacturing industries, competition is not likely to become as fierce as in transportation industries. The principle of increasing returns, which tends peculiarly to cause bitter competition, has little application in manufactures. The concern which finds current business unprofitable usually restricts its output or stops it altogether, looking to the time when the increase of

demand will again render the business of the plant profitable. It does not go on cutting prices until forced into bankruptcy.

Against these alleged advantages of monopolistic combination must be set the tendency of monopoly to lessen efficiency and retard industrial progress. It is generally recognized that the possession of a monopoly tends strongly toward stagnation. Competition is a powerful spur to efficiency. The competitor who would not go to the wall must be ever on the alert. Inventions of machinery and improvements in methods are essential to successful competition. Marked as has been the progress in the railroad business of the United States, there is much reason to believe that American railroads have made less progress during the last decade or two than most American manufacturing industries, and that this is due to the comparative absence of competition in the railroad business during recent years. The relative unprogressiveness of the largely monopolized telegraph business in this country, at least till recently, has often been commented on.

It can scarcely be proved that any of the leading trusts have been particularly lacking in progressiveness, that they have actually made fewer improvements in methods than have been made in industries where competition was active. Comparisons on this point are virtually impossible. But the trusts have thus far been on the defensive both against potential competition and against public criticism. This defensive position has made them look closely to efficiency. Should the policy of permitting monopolistic combinations be adopted, there would be danger that the absence of competitive pressure would more than counterbalance any possible advantages from the elimination of competition.

Regulated monopoly is likely to be even less efficient than unregulated monopoly. The trust, if unrestricted in prices and profits, has at least a motive to do business as cheaply as possible. When, however, the trust anticipates that every reduction in costs may mean a reduction in prices, that profits resulting from increased efficiency may be wholly or largely taken from it by government regulation, even this motive tends to disappear. In the case of public service corporations various methods have been pursued, with more or less success, for securing a division of the advantages of increased efficiency between the public and the monopoly. Should the government enter upon the policy of regulating the prices and the profits of trusts, similar methods would have to be followed as far as possible. Because of the multifarious character of the different industries, however, it would be much harder to apply these methods successfully to trusts than to the limited number of public service enterprises.

Let us now bring together summarily the results of this discussion of the trust problem. We have tried to show that unregulated combination is dangerous to the public welfare. Even if they could be deprived of the weapons of unfair competition or of the advantages of natural monopoly — a thing by no means easy — trusts and pools would still probably possess a material degree of monopolistic power. It would be a dangerous experiment to remove the ban of the law from them without substituting effective machinery for regulation.

We have sought to show further that it is feasible to prevent by law the more formal types of combinations and of contracts in restraint of trade. It may be impossible wholly to prevent informal understandings which in some degree restrict competition. These

informal understandings, however, are far less effective in maintaining monopoly prices and charges than formal combinations such as pools and trusts.

It was pointed out that the difficulties of government regulation are exceedingly great. The policy of permitting trusts to exist at all, if not restricted to extraordinary conditions, might result in the extension of trusts over almost the entire field of industry. It might also result in practically complete monopolization by each trust of its particular field. The determination of costs and of investment as a basis for the fixing of prices and profits over the multifarious field of industry would require immensely elaborate investigations and would involve extraordinarily difficult questions of judgment. Proper adjustment to the ever varying conditions of demand would be almost impossible. A vast governmental machinery for fixing prices and profits would have to be superimposed upon the machinery of private business. Government ownership on a vast scale or even complete socialism might readily be the outcome of this policy.

Finally, it has been shown that many of the alleged advantages of trusts in efficiency could probably be secured in almost if not quite as great measure through large individual plants and through smaller combinations not powerful enough to threaten monopoly. While the suppression of competition itself may tend to bring about certain economies and other advantages, there must be set against these not only the grave difficulties of regulation, but the tendency of monopoly and of regulation itself to lessen efficiency.

It may be granted that the data and the reasoning throughout this discussion have been not altogether conclusive. It cannot be expected that every one will agree with the points of view here taken. The burden of

proof, however, rests upon the defenders of the trusts. They ask us to permit the trusts to exist, whether with or without regulation. In this they are asking a departure from what until very recently were universally considered the proper principles of law and of economics. Their argument is certainly no more conclusive than the argument of those who would suppress trusts.

To defend big business is easy. The advantages of large scale production are obvious. To identify big business and large scale production with the trust is quite another thing. The glamor of the huge corporation with its mighty plants, its splendid organization, its thoro accounting system, its integration of related processes, must not blind us. All these are essential to progress. To get them we might even be willing to pay the high price of surrendering competition. But we must be sure that they can be secured at no lower price before we tender such a compensation, or before we even enter on a path which may ultimately necessitate that compensation.

To pass from a régime of competition to one of monopoly is easy. To return from a régime of monopoly to one of competition is immensely difficult. The American people have not yet tried out fully the possibilities of competitive industry. It would be foolish to abandon the experiment thus early in our national development. If we destroy as far as possible the trusts that now exist, if we prevent trusts and combinations from being formed, we shall soon see whether it is possible to secure real competition, and whether under competition efficiency can reach a high point. If not we can readily enough change our policy. On the other hand, to accept the trusts today is to leap in the dark. Every step in that direction is difficult to retrace. The results of an experiment with permitting trusts freely to organize and with regulating them could not be deter-

mined for such a long period of time that the trusts would meantime get a grip almost impossible to shake off. In fact, we never could satisfy ourselves by such an experiment that a trust régime was more satisfactory than a régime of competition, for we should have no fair example of the working of competition under similar conditions with which to make comparison.

Particularly weak would it be to allow the mere fear of a temporary disturbance of business to turn us from a safe permanent policy. The thoughtful man can have no patience with the complaint that the government is interfering with business or lowering the prices of securities by enforcing the anti-trust law. Suppose an industrial depression should be brought about? Is that a heavy price to pay for protecting the decades and the centuries of the future against a mighty evil? Granted that it is uncertain whether the trust régime would be a mighty evil, the mere possibility that it would prove such is enough to justify a present sacrifice to avert it.

The thoughtful opponent of trusts does not urge that, as the phrase goes, the government should "run amuck." It need not in a year or two attack every combination without due inquiry as to whether it actually possesses or threatens monopoly power, or as to the manner in which it is exercising such power as it does possess. A policy once determined upon and definitely announced may be carried out with reasonable deliberation and consideration of all interests. But it is high time that an end shall be put to all doubt of the intention of the people. Either they must proclaim their determination to maintain a régime of competition in manufactures and trade for an indefinite period to come, or they must promptly declare themselves for the policy of regulation. The safe policy for today is prohibition of trusts and other monopolistic com-

binations. It is the vigorous enforcement of the anti-trust laws, aided by the provision of expert administrative machinery such as the proposed trade commission.

Whether the ultimate policy adopted toward the trust be *laissez faire*, regulation or prohibition, we shall, in all probability, find it necessary to supplement the chosen policy by vigorous exercise of the taxing power. Taxation can take away a large part of monopoly profits and other unearned gains whether derived from trusts and pools, from railroads, from banking, from control of land and other natural resources, or from any other source.

Direct taxation of trusts and other business enterprises with a view to taking away excessive gains would encounter practically the same difficulties as regulation of prices and profits. Heavy income taxes upon individuals, particularly if progressive, are very hard to enforce. Inheritance taxes would be more feasible. Progressive inheritance taxes, even with rates such that much the greater part of the largest fortunes would be taken by the government, would, in the opinion of many thoughtful men, be neither unjust nor socially disadvantageous. They are defensible even when applied to fortunes derived from strictly legitimate business. Taxes of this sort might in some degree tend to check the accumulation of capital and to prevent the efficient captain of industry from exercising his talents to the utmost, but the effect in these directions would probably not be very serious. There might, too, be some difficulty in enforcing collection and preventing evasion, but on the whole the system would go far toward correcting that immense disparity of wealth and of opportunity which is the main source of social unrest.

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AGRICULTURAL CREDIT IN THE UNITED STATES

SUMMARY

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The purpose of this article is to inquire into conditions of agricultural indebtedness in the United States, to indicate the credit facilities of the American farmer and to consider the plans suggested for their improvement.

I. EXISTING CONDITIONS

The farmer may need credit for:

1. Land acquisition, through purchase or inheritance.
2. Permanent improvements, such as buildings, fences, drains.
3. Equipment, including machinery, implements, work animals.
4. Working capital, including expenditures for fertilizer, seed, fodder, fuel, labor.

Credit for land and improvements is usually termed ownership credit; and since it is granted for a comparatively long time on mortgage security, it is referred to as mortgage or long term credit. Working credit, on the other hand, since it is granted for a comparatively short time, and since the personal factor is the chief element in its security, is referred to as personal or short term credit. Equipment credit, tho more like improvement than like working credit when viewed from the standpoint of production, must be classed, on account of its comparatively short term and the importance of the personal element in its security, as short term or personal credit.

It may be broadly stated that previous to the last quarter of the nineteenth century American farmers felt little need of credit. They had been given their land by the Government or had bought it at comparatively low prices. Since agriculture was extensive, expenditures for improvement and equipment were inconsiderable. The virgin soil needed no fertilization, and credit was seldom required except for family supplies during the crop growing period.

The western movement, which began to assume large proportions about the middle of the nineteenth century, resulted in the opening of vast areas of fertile land adapted to grain growing and of free grazing land on which live stock could be raised at low cost. This resulted in a tremendous surplus of agricultural products, which, owing to the development of railroad and ocean transportation, was thrown on the markets of the world,¹ bringing prosperity to the farmers of America and ruin to those of Europe.

¹ The exportation of cereals did not begin to assume large proportions until 1855, but from this time until 1890 it was tremendous. Between 1873 and 1890 the area under cereal cultivation doubled. From 1880 to 1890 the exports of wheat increased 800%, while the increase of corn exports was even more marked. The exports of

Partly as a result of this overwhelming flood of production and partly on account of the speculation and inflation which followed the Civil War, a great increase in land values took place. This gave farmers a broader basis for borrowing and they took advantage of it to make improvements and to add more land to their farms. Tempted by the high rates of interest and deceived by the reported endless wealth of the new west, eastern and European capitalists made loans altogether too freely and often on the security of land practically worthless or located in regions of uncertain crops. The upward movement culminated in the early '90s; grain farming reached its climax and over-production brought the inevitable fall of prices and of land values.

MORTGAGE INDEBTEDNESS

Farmers now began to feel the burden of their great mortgage indebtedness, which had grown enormously during the preceding decade and which had been incurred largely for unproductive purposes.¹ Many could not pay their interest, and as it often happened that the selling price was less than the amount of the mortgage, foreclosures were common.² This collapse caused wide-spread discontent among the farmers and

cereals during the decade 1880 to 1889 were three times as great as those of the decade 1860 to 1869. The export of livestock products increased 406% from 1870 to 1881. The value of the exports of American breadstuffs increased from \$24,000,000 in 1860 to \$288,000,000 in 1880, while the value of livestock products exported rose in these years from 16 million to 156 million dollars.

¹ George K. Holmes estimates that the ratio of mortgage indebtedness to wealth increased more rapidly from 1880 to 1890 than from 1870 to 1880, and that the debt limit was more nearly approached in 1890 than in 1880. *Annals of American Academy*, 1894, p. 910.

² In Michigan, for example, there were, in 1888, sixteen hundred and sixty-seven foreclosures with only one hundred and thirty-one redemptions. *Political Science Quarterly*, vol. v, p. 72.

Of agricultural loans in Indiana amounting to one million dollars, fifty-three per cent were foreclosed; and in some states, Kansas and Nebraska, for example, conditions were much worse. *Political Science Quarterly*, vol. v, p. 71; *ibid.*, vol. iv, p. 436, et seq.

as a consequence many investigations into conditions of rural indebtedness were instituted. The United States Census undertook for the first time an investigation of mortgage indebtedness. The inquiry was not included in the agriculture schedule, but special agents, sent to one hundred and two typical counties, made an investigation which served as a basis for an estimate of the total mortgage indebtedness of farms operated by their owners. This total was estimated at \$1,085,995,960.¹

Prices of farm products reached their lowest point about 1896, but land values continued to fall until 1900. The low prices discouraged production, and the increase in cereal production between 1890 and 1900 was only 19%, whereas there had been an increase of 34% during the preceding decade. In many of the great agricultural states soil fertility had begun to decline and the increase in production which did take place was due not so much to more intensive or better farming as to the taking up of new lands west of the Missouri.²

The Census of 1900 did not secure data on farm indebtedness and there are no statistics of its movement from 1890 to 1900. The census of 1910 secured, on the regular agricultural schedule, information regarding the amount of mortgage indebtedness on farms operated by their owners. Since returns had been made for only 75% of such farms, about 25% of this debt was estimated. The result was a total debt of \$2,293,000,000, — 110% greater than the debt of similar farms in 1890.³

¹ The methods by which the Census arrived at these results have been severely criticised, and the accuracy of the results questioned. But the writer, while fully appreciating the shortcomings of these statistics and of census data in general, believes that they are sufficiently accurate to indicate tendencies.

² The acreage in cereals increased 35% during this decade, while the production of cereals increased only 19%, whereas during the preceding decade the acreage increased 16% and the production, 34%.

³ The statistics of 1890 are not comparable with those of 1910, since they did not distinguish between farms consisting exclusively of owned land and those consisting in part of rented land. But this difference does not materially affect the validity of the comparison. Thirteenth Census, vol. v, Agriculture, p. 101.

The question naturally arises; for what purpose was this huge additional debt incurred? The census did not inquire into the subject, but George K. Holmes estimates that about 64.4%¹ of the total debt in 1890 grew out of ownership, either through purchase or through inheritance; and he thinks that probably this statement is equally applicable to the year 1910. When land values increase, ownership becomes more difficult, and the increase of mortgage indebtedness is inevitable.² During the period 1890-1910 the value of land and its improvements for the country as a whole increased 100%, and this, coupled with frequency of land transfers, resulted in a great increase of mortgage indebtedness.

The farmer has also made heavy expenditures to raise his standard of living and has spent large sums on improvements and equipment and in working capital. The value of buildings, apart from that of the land, was not given by the Census of 1890, but was given in 1900 and 1910, and comparison shows an increase of 77.8%.³ During the same decade value of implements and machinery increased 68.7%, while the expenditure for labor increased 82.3%, and that for fertilizer, 115%.⁴ These increased expenditures for equipment and operation are the result of the normal development of agriculture, since they arise out of a growing necessity for greater intensity of cultivation. Animals are of better quality and require better housing. More thoro cultivation calls for a larger expenditure for labor or increased employment of machinery. Declining soil

¹ Holmes, George K., *Rural Credit in Business America*, February, 1913, p. 126.

² According to Trosien, the more valuable land becomes, the more borrowed capital is necessary for purchase, and hence the lower becomes the percentage of own capital in agriculture. Trosien, *Der landwirtschaftliche Kredit und seine durchgreifende Verbesserung*, p. 29.

³ Thirteenth Census, 1910, vol. v, *Agriculture*, p. 79.

⁴ *Ibid.*, p. 372.

fertility may force the farmer to resort to artificial fertilizer. It is possible that these added items of expense may not be reflected in increased production and must, therefore, be wholly met out of an increase in prices. But should such an increase in prices not take place, the additional expenditures would have to be met out of the farmer's capital, which must ultimately increase his mortgage indebtedness. That this is frequently the case the history of agriculture affords abundant evidence. A recent writer, speaking of conditions in a certain locality, says the demand for mortgage credit exceeds the supply, owing to the transformation of short term into long term loans. Trosien remarks that personal debts tend to become mortgage debts, while second mortgages often arise from the capitalization of unpaid interest on the first.¹ Consolidation of past debts is given as the greatest cause of mortgage indebtedness in Saskatchewan.² In the United States, undoubtedly, no inconsiderable part of the indebtedness incurred through these expenditures has been converted into mortgages; and this, therefore, may be considered as one of the causes of the increase of mortgage indebtedness. But the fact should not be lost sight of that during the period under consideration there has been an enormous rise of prices, which has not been taken advantage of to reduce mortgage indebtedness or prevent its increase or to stimulate production. After due allowance has been made for the growing difficulties in the way of declining soil fertility and the like, the fact remains that there has been an enormous expenditure which should be reflected in increased production; but no such reflection can be discovered. Enormous sums have been spent for buildings, implements, machinery, labor and fertilizers, and yet there has been

¹ Trosien, p. 21.

² *Commercial West*, November 8, 1913, p. 34.

no appreciable increase in the average yield of staple crops; and tho the census is probably mistaken in reporting a decline in the volume of dairy products, there has probably been no great increase.

The farmers of the South depend much more on personal credit than do those of the North. 45% of the farms in the West Central States are mortgaged, while in the South Atlantic states but 13% are mortgaged and in the South Central, 8.2%. In Iowa 51% are mortgaged; and in Alabama, 26%. The reasons for this difference are various. Among them may be mentioned the fact that much of the land in the South is held in large tracts, which are usually broken up into small farms under tenant cultivation. And while the owners of such tracts may often secure money at favorable rates, this system of farming does not adapt itself to large mortgage loaning. In the case of the southern owner who himself tills the farm, the system of agriculture is such that the security offered is not attractive to outside capital. Agricultural practices are not standardized; loans are small; the general prejudice of the owner against a mortgage, the prevailing sentiment that a mortgage on the farm greatly impairs the mortgagor's personal credit, large homestead exemptions, and lack of adequate laws to protect the investor have retarded mortgage loans in the South, while low land values and infrequent transfers have also been important factors in keeping down mortgage indebtedness. As a result permanent improvements, which must be made largely from mortgage loans, have not been made. But a tremendous change in this regard has been going on in the South during the past twenty years and particularly during the last decade. While homestead exemptions and laws protecting credit have undergone little change, ownership has greatly increased

among both white and colored farmers.¹ Agricultural conditions have become more stable; land values have risen and are much less speculative than in the North; improvement expenditures show a marked increase and while the percentage of farms mortgaged² and the absolute indebtedness are low in the South as compared with the North, the per cent of increase in mortgage indebtedness in the former section has been very much greater. For example, the increase of mortgage indebtedness for the North Central states was 59%, while the increase for the South Central was 190%.³ For Iowa, which has the heaviest mortgage indebtedness of all the northern states, the increase was 100%, while for Alabama it was 437%.⁴ Altho the rates on mortgage loans are much higher in the South than in the better developed agricultural regions of the North, the burden of mortgage indebtedness is much lighter in the South. In much of the South agricultural conditions to-day are very similar, as regards the return on investment, to those which prevailed in the great Middle West a generation ago.⁵ High interest rates are off-set by large profits; the short term of the loan, which is from three to five years, is usually sufficient time for the farmer to pay off his debt if he is so inclined.

¹ Thirteenth Census, Abstract, p. 293.

² *Ibid.*, p. 293.

³ *Ibid.*, p. 293.

⁴ Thirteenth Census, vol. vi, pp. 508 and 521.

⁵ The census data afford only a very crude approximation to the relation of income to investment, but after due allowance is made, the following figures show conclusively the correctness of this statement. In Yazoo County, Mississippi, farm lands are valued at \$10 to \$25 an acre. The average gross income per acre is \$28, while the average mortgage indebtedness per acre is \$1.80. In Cass County, Iowa, the land values are from \$100 to \$125 per acre while the gross income per acre amounts to \$11 if only crops and dairy products are taken into account and to \$20 if the sales of live stock are included. The average mortgage indebtedness is \$37 an acre. In Oglethorpe County, Georgia, the average value of land is from \$10 to \$25 an acre, the average income is \$10, the average mortgage is \$2. In Paulding County, Ohio, land is valued at from \$75 to \$100 per acre and the average income per acre, including returns from livestock sold, is \$15. The average mortgage indebtedness is \$10.

Beyond the expenditure necessary to maintain the former level of production, which may eventually mean an increase in mortgage indebtedness, any further increase in such indebtedness should indicate expansion; that is, an increase in production. In Germany, for example, while mortgage indebtedness has greatly increased, during the last quarter of the century, there has also been an enormous expansion in agriculture. Helfferich shows that the yield of wheat, rye, oats, barley, potatoes and hay increased 77.7% during this period, while the acreage increased 87.7%.¹ Similar figures might be given for Denmark. In the United States, however, the increased mortgage indebtedness is not reflected in increased production. Agricultural prosperity has been almost solely due to an increase in prices.

Some writers maintain that this is not a serious matter, since, owing to the rise of land values, the farmer now has, on an average, despite his heavier mortgage indebtedness, a greater equity than before, shown by the fact that in 1890 the mortgage debt on farms operated by owners was 35.5% of their value, while in 1910 it was but 27.2%. But the argument seems to the writer fallacious. The real measure of the prosperity of the farmers as a class is not the amount of their equity but the net return on their investment. Altho an increased equity, not accompanied by a corresponding increase in the net return on investment, is of course a gain to the farmer who wishes to sell, it is of no material advantage to the one who wishes to hold his farm and whose income is sufficient for his needs; while a new owner, whether by purchase or by inheritance, is actually worse off, despite his increased equity, than if the land had not increased in value, because of his larger interest

¹ *Annalist*, October 20, 1913, p. 492.

payments and the fact that the mere acquisition of the land has depleted his working funds. To quote from the report of a recent investigation, "where land values are high, the amount of money invested in working capital becomes proportionately small." This refers to conditions in Indiana, Illinois and Iowa.¹ And Trosien states that the higher the price of land rises, the more difficult does it become to secure capital for its proper working.²

The significance of equity becomes clearer if farming is viewed as a business which is successful only if it yields a fair return on the investment and pays the farmer fair wages of management. That this is not the case in our most advanced agricultural regions has been clearly brought out by the report of the above-mentioned investigation of farming conditions in Indiana, Illinois and Iowa. Two hundred and forty-seven rented farms were investigated, with the result that the average return on their investment to the landlords in these states is shown to be 3.5%, 3.6% and 3.2% respectively. In the case of 273 farm owners who tilled their farms, the average labor income left after the deduction of 5% interest on the capital was \$408. "One owner out of every three paid for the privilege of working his farm, that is, after deducting 5% interest on his investment he failed to make a plus labor income." And the farm owners, with an average investment of over twelve times that of the farm tenants, made less than half as much labor income. The bulletin concludes that the farmers of these regions who are owners are living on the earnings of their investment and not on the real profits of the farm.³

¹ Bulletin 41, United States Department of Agriculture, p. 20.

² Trosien, p. 23.

³ Bulletin no. 41, United States Department of Agriculture.

It is not at all certain that this increased equity is stable. It is evident that part of the increase has resulted from land speculation; and since production has remained about stationary, the rest must be credited to the rise in prices of farm products. These prices are now so high that any further rise must either curtail consumption or stimulate importation, and is therefore improbable. Indeed it is doubtful whether the present high prices will continue even if there is no interruption of general prosperity. For in normal times a change of agricultural prices is always imminent,¹ and with prices at their present high level any change would probably be a decline. This might easily cause a diminution of the farmer's income which would result in a fall of land values sufficient to wipe out much of the increase in his equity and to add still further to the burden of his mortgage debt.²

The writer is not of the opinion that the average mortgage indebtedness of the American farmer is excessive. In a country so rich agriculturally, a mortgage debt of \$2,793,000,000³ is no cause for alarm; and in general, an increase of the agricultural indebtedness of a country is usually a sign of prosperity. But it is a sign of prosperity only if the increase of land values on which the additional mortgage debt is based has been caused, not by speculation or by an abnormal rise in the prices of products, but by an actual increase in the volume of production. It is essential not only to the

¹ "Relations between physical production and pecuniary value are exceedingly irregular with agricultural products." Mitchell, *Business Cycles*, p. 239.

² Seasonal variation and fluctuating prices have a marked influence on the profits from farming in the districts studied in Illinois, Indiana and Iowa. The average price received for corn sold by the landlords of the two hundred and forty-seven tenant farms was \$.41, and a drop of \$.05 alone would have reduced the income 6%. Bulletin 41, United States Department of Agriculture.

³ Holmes, *Business America*, February, 1913, p. 124.

welfare of society in general but also to the security of the farmer himself that any increase in the returns from agriculture shall have resulted mainly from an increase of production rather than from high prices.

SOURCES OF MORTGAGE CREDIT

The principal sources of mortgage credit are: (1) the individual lender; (2) the life insurance company; (3) the bank; (4) the state; (5) the mortgage company; (6) the building and loan association. These will be considered in the order stated.

(1) In most communities there are individuals willing to loan to their neighbors, because through personal supervision they can minimize risks which exclude outside lenders, and because by loaning directly they avoid paying the middleman's commission. This form of credit offers certain advantages to the borrower, but it lends itself to abuse. It plays an important rôle in this country, but no statistics concerning it are available.

(2) Perhaps the most important source of farm mortgage loans is the insurance company. It has been recently estimated ¹ that 172 of the leading life insurance companies have outstanding rural loans to the amount of \$572,000,000, or about one-fifth of the entire agricultural mortgage indebtedness. They operate in all parts of the country where agricultural conditions are sufficiently well established and where land values are high enough to furnish adequate security for a fairly large loan. Great caution is exercised and the inclusion of a locality in the territory of one of these companies is evidence of that locality's prosperity and good stand-

¹ Badow, G. M. J., *Investments of Life Insurance Companies*. Rand McNally Bankers' Monthly, June, 1913, p. 17.

ing. But even in good sections, loans on small farms are not favored.¹ The companies not infrequently make their investments through well-established mortgage companies but they usually act through local agents thoroly acquainted with the conditions in their districts. These agents make the appraisals and exercise general supervision over the loans. The company, however, employs its own attorney and inspectors, who pass final judgment on the valuations, titles and papers submitted by the agents.

Each year sees an increase in the investments of life insurance companies in farm loans. This is due to the improvement of the average risk, to growing confidence in the security of such loans and to the comparatively high rate of interest² which they yield.

(3) In general, it is not the function of a bank to make mortgage loans. Not until the passage of the Federal Reserve Act of 1913 were national banks permitted to loan on real estate, tho it has been their common practice to take real estate mortgages as added security for personal loans. Section 24 of the Federal Reserve Act provides that any national bank not situated in a Central Reserve city may make loans on improved farm land, not to exceed 50% of the actual value of the property offered as security and for a period not exceeding five years. The bank may make such loans in an aggregate sum equal to 25% of its capital and surplus, and to 33 $\frac{1}{3}$ % of its time deposits.

¹ One of the largest companies, with practically all its assets in farm loans, reports their average size to be \$1782. Since the company loans up to but slightly over 25% of the farm values, it is evident that the small farmer obtains no assistance from this source.

² In 1913 the average interest on the assets of insurance companies investing in

Farm loans and stocks was	5.08 %
Farm loans and no stocks was	5.57 %
No farm loans and no stocks was.....	4.75 %

Rand McNally, June, 1913, p. 24.

What is likely to be the result of the new policy thus inaugurated ?

For years there has been agitation both within and without the ranks of the national banks, for the adoption of this policy; and now that it has finally been adopted, it is heralded as a great boon to agriculture. In a recent statement from the Treasury Department (reported in the daily papers of June nineteenth), attention was called to the fact that at the present time \$500,000,000 is available for farm mortgage loans. The writer, however, does not share the belief that the making of real estate loans by national banks is in accordance with the principles of sound banking, and even if it were, he does not believe that such loaning would prove profitable to the banks or convenient for the farmers.

A bank's primary function is to make possible the employment of capital temporarily out of use. This it does by establishing a reservoir of liquid funds known as deposits. It should not act as a primary agent of investment, even to the extent involved in making five year mortgage loans. The resources of a bank should be kept so liquid that they will be immediately available in times of stress. The time deposits of even the country national bank do not bear the same relation to the bank as the savings deposits bear to the industrial savings bank. The restriction of the amount to be loaned to $33\frac{1}{3}\%$ of the time deposits and of the term to five years is an admission of this fact. Yet it is difficult to see why this five year restriction was made, since from the standpoint of a bank a five year loan is no more liquid than a ten year loan.

Further, in meeting the demands of farmers for personal loans, the bulk of which run for a period of from six months to a year and are therefore not short time

loans in a strict sense, national banks are subjected to as great a strain as they should be called upon to bear.

The banks are not likely to find it profitable to make the permitted mortgage loans, since the rate could not be higher than that on commercial loans; while farmers can secure loans locally from individuals or from outside sources at lower rates. In Illinois or Minnesota, for example, farmers to whom a National bank would care to loan on mortgage can secure loans on their farms at a rate below that which the bank charges on their personal loans and even lower than that paid the bank by the local merchant. Even if it be granted that under certain conditions it would be to the bank's advantage to make the mortgage loans, a five year term would be too short if the loan was required for purchase. It is to be born in mind, also, that a farmer who would have to resort to mortgaging for improvements or equipment would already have a mortgage on his farm and could therefore not offer acceptable security to a national bank.

The conclusion is inevitable that the newly-authorized loans cannot become important. This is overwhelmingly borne out by the experience of our state banks and by that of European banks. It is interesting to note in this connection that the Scotch banks, which have been wonderfully successful in meeting the demands of agriculture, do not, if they can avoid it, accept real estate as security.¹ One cannot but suspect that a great deal of the clamor for the law permitting national banks to make mortgage loans has been raised by men ignorant of banking principles, eager to propitiate those who regard the national banks as oppressors, or by bankers who have permitted their judgment to become warped.

¹ Senate document 214, 63d Congress, 1st Session, p. 827.

State banks have not been restrained by law from making mortgage loans but have not taken them to a great extent. Indirectly, however, by acting as agents of outside investors, both national and state banks have made enormous sums of capital available to farmers. Unlike these banks, trust companies and savings banks have in trust funds which may safely be loaned on mortgage.¹ But while the trust company has performed a very important service in the matter of making agricultural loans, savings banks, which are largely confined to our industrial centers, have found urban loaning more profitable.

(4) Some States loan to farmers from the permanent school fund. Up to the present time, this has but slightly influenced the farm mortgage situation, but recent agitation favors a greater liberality in this practice. Authorities have rightly felt, however, that these funds should not be loaned without adequate security, and farmers who can offer such security would have no trouble in obtaining loans elsewhere.

(5) During the last quarter of the nineteenth century numerous mortgage companies were organized which obtained their funds through the sale of debenture bonds. Through unscrupulous management and lack of public supervision many of these companies were led into careless and excessive loaning which involved them and their gullible investors in the collapse of the early '90s. Some, however, were conservatively managed and are still in existence, and at present mortgage companies are playing an important rôle in the making of farm loans, altho the issue of debenture bonds has been practically given up.

¹ "The demand for trust companies in country districts has been not inconsiderable. Trust companies supply a large part of the farm loanings, either retaining the mortgages or selling them to clients outside the district, by which they succeed in drawing outside capital to the community." *American Banker*, July 12, 1913.

There are two classes of mortgage companies. The first class are really mortgage brokers. They are without resources and are therefore not in a position to assume financial responsibility. They receive the farmer's application, appraise his property, draw up the papers and on finding a purchaser of the mortgage, pay over the sum to the farmer. As agents, they collect the interest and generally supervise the loan. The objections to such companies are: that the farmer must wait for his loan until a purchaser can be found; and that, in case of defaulted interest or of foreclosure the inconvenience falls on the investor.

The second class of mortgage companies occupy the position of underwriters. On the farmer's application the company makes an appraisal of his farm and if willing to grant the loan does this, after the necessary preliminaries, in its own name and from its own resources. It then sells the mortgage to the investor and endorses it to him. But if the loan is too large to be made by a single investor the company itself retains the mortgage and sells serial bonds issued against it. The company guarantees the title, collects the interest and advances it in case of delay, and generally supervises the loan. It keeps the investor's money constantly employed by reinvestment in new mortgages as the old ones become due.

(6) The building and loaning associations, which are now found in practically all parts of the country and which have rendered great service to home buyers in our smaller cities and towns, until very recently took mortgages on urban property only; but in the older parts of the country they are now attempting to extend their activities to the country districts, and in some localities their loans to farmers have begun to assume considerable proportions. For example, the Ohio Building and

Loan Associations have outstanding at the present time five thousand loans, amounting to over \$11,000,000. The loans run from one to sixteen years.¹ The associations have shown themselves capable of adaptation to the peculiar needs of farmers, and there is every reason to believe that they will become a fruitful source of farm loans.

In a country so extensive and of such widely varying conditions, it is impossible to determine the average rate the farmer is paying. On the basis of similarity in mortgage conditions the country may be divided into three regions: the older sections of the North and Middle West, the South, and the newer sections of the West and Northwest. But it should be borne in mind that even within these regions rates vary greatly between communities, and even between farmers of the same community.

In the most favored sections of the North the rate is about 5.5%, plus a 2% commission distributed over five years, which makes the cost of the loan about 5.9%. The commission covers all expenses save the registration fee. In the less favored sections the rate is $\frac{1}{2}\%$ to $\frac{1}{4}\%$ higher, that is, it varies from about 6.4% to about 6.65%. The North and Middle West bear about 60% of the entire farm mortgage indebtedness of the country.

In the South the majority of the borrowers pay 6.5% plus a 2% annual commission, or 8.5%. This section bears about 20% of the total mortgage indebtedness of the country.

In the West and Northwest the rate is about the same as in the South. This section bears about 20% of the mortgage debt of the country.

¹ Paper by K. V. Haymaker, read before the Ohio Building Association League, Marietta, Ohio, October 15, 1913.

But there are numerous exceptions to these statements of rates. Many farmers are able to borrow money at from four to five per cent ¹ while in the South and in the newer sections of the United States, loans not infrequently pay 10% interest, with the addition of a three to five per cent annual commission.

Rates may also be approximately estimated from the yield of mortgage loans to investors. The usual rate offered to investors by mortgage companies making loans in the northwest is 6%, tho the rate varies, according to the risk, from 5.5% to 7%. In the South the usual rate is 7%, tho some loans are made at 6%. The commissions charged by the companies vary, according to risk and competition, from 1% to 3%.

The president of a mortgage company located in the extreme Northwest states that in order to cover expenses and make adequate profits the mortgage company must have an annual margin of at least 1.5% above the rate quoted to the investor. In other words, in that region the farmers who are more favorably situated pay from 7% to 7.5%. The annual margin on the less desirable loans is probably from 2% to 3%, and the interest is from 8% to 9.5%. The president of a company located in the Middle West states that its mortgages net the investor from 5.5% to 6%, that the cost of making the loan is .7% and that the additional charge for profit makes the cost to the farmer from 7% to 7.5%. These figures are significant in connection with the fact that the company has outstanding mortgages to the amount of \$15,000,000, and that it will not do business in a community which does not annually furnish mortgage paper amounting to \$200,000.²

¹ Loans at these rates, however, are on the best risks and are made only by insurance companies and individuals. The mortgage companies cannot afford to make them since the rate is too low to allow the necessary profits.

² It is evident from these figures that the statement frequently given out by advocates of better credit facilities grossly exaggerate the excess interest the farmer is sup-

The local middleman plays an important part in mortgage loaning in the United States. While the better organized mortgage companies urge the farmer to deal directly with them, he nevertheless often pays a commission to a third party for telling him where he may secure a loan, and in many parts of the country there are middlemen who perform no other function. In certain sections, however, the isolated position of the farmer, his ignorance of business, his lack of system and his dependence on outside capital make a middleman who is familiar with him and his affairs a necessity. So varied are the conditions under which such a middleman acts that it is practically impossible to generalize as to the cost of his services; but in most cases it is not exorbitant.

The period of a mortgage loan is an important element in determining its cost. In the United States, as a whole, the usual period is five years, but in the South small loans are often made for three years and in the best regions of the North some loans are made for ten. In the early history of mortgage loaning, loans were small in proportion to the productivity of the land and there was some economic justification for the three or five year term, since a loan could often be paid off within that time; but this is no longer the case for a large part of the country, tho it still holds true in the South and the newer sections of the West. With so short a term, frequent renewals are necessary, and the expense and uncertainty involved impose a needless burden on the borrower. The usual excuse for the short term is that, since the mortgage contains no clause providing for foreclosure in the case of depreciation or for partial payments, the short term is the lender's only

posed to be paying since the bulk of mortgage indebtedness is not bearing the rate of interest on which they are basing their calculations. President Taft, in his letter of October 11, 1912, to Ambassador Herriok, is made to say that the average rate of interest on the entire mortgage debt is 8.5%. Senate Document 957, Sixty-second Congress, Third Session, p. 4.

means of self defense. But this is a poor argument, since the farmer would doubtless consent to the inclusion of such a clause if he could thereby secure a longer term with the privilege of making partial payments. The real reason for short periods is to be found in the desire of the investor or his agent for commissions on renewals. In partial extenuation it may be noted that the initial cost of making a loan is often so great that if the hope of future profits from renewals were to be eliminated initial commissions would have to be made larger.

Another element of the cost of the mortgage loan is the expense of registration, of searching and perfecting titles, of abstracting and so forth. This is sometimes made an extra charge. The registration fee, which in many states is merely nominal, is always paid by the borrower. In some states, however, its amount depends on the length of the document and therefore bears no relation to the amount of the loan. Often it is a grievous burden on the small borrower. Some states have introduced the Torrens system of title registration, thereby reducing the expense to a minimum. In other states abstract companies have done much to reduce these costs. In the South, however, such companies are not common and since the records must be searched from the beginning for each new mortgage, the cost is high.

PERSONAL INDEBTEDNESS

There has been no general investigation into the amount of personal indebtedness of the American farmer. Holmes¹ estimates the total rural indebtedness to be \$5,000,000,000 of which \$2,795,000,000² is

¹ *Business America*, February, 1913, p. 121.

² \$500,000,000 of this amount is mortgage debt on farms operated by tenants.

real estate credit and the rest is personal credit distributed as follows: chattel mortgages, \$700,000,000; liens on crops other than cotton, \$450,000,000; cotton crop liens, \$390,000,000; unsecured debts to local merchants, \$250,000,000 and other unsecured debts, \$410,000,000.

With regard to its source personal credit may be classified as: (a) merchant's credit, including store credit, dealer's credit and factor's credit; (b) bank credit.

The practice among storekeepers of selling to farmers goods to be paid for after the harvest is almost as universal as agriculture itself. It is less prevalent in regions of diversified farming, where the farmer, from the sale of eggs, poultry, milk, etc., has a weekly income available for ordinary household expenses. But where this is not the case store credit flourishes even if banking facilities are good. This is due partly to the convenience of the system, partly to the failure of farmers to realize that in paying the "credit prices" of the storekeeper, they are paying him a rate of interest higher than they would have to pay the bank and partly to the fact that the storekeeper can give credit to farmers who would be unable to obtain it from the bank. The amount of this ordinary store credit cannot be estimated; altho on the whole it has declined in this country, it is still enormous.

There exists, however, in the South, a far more important form of store credit. The local merchant not only gives credit for the ordinary family supplies, but in reality finances the growing crop, — contracting to make a definite loan to be taken in commodities. If the farmer is an owner or a responsible tenant, the merchant makes the loan directly and may take a mortgage on the crop. He may even prescribe the kind

of crop to be grown, lay down general rules for its cultivation, supervise it in every stage of its growth, and insist on its sale to him when harvested. But otherwise the loan is made through the landlord, who assumes the responsibility of payment. This form of credit is due to special economic and social conditions, — the constant shifting of the rural population¹ and the fact that a large part of this population are of a race still in its economic infancy, — rather than to any lack of banking facilities. For the majority of such farmers cash credit is out of the question, since they would not use it for making their crop but would squander it. A bank, however, often lends the merchant the money for buying the supplies to be advanced to the farmer. As an inevitable result of the expense and risk of granting this form of store credit, its cost is high, and the system undoubtedly lends itself to grave abuses. With the development of economic sense, it is declining; but without such credit independent farming would have been impossible for a large part of the southern farmers.

The substitution of expensive machinery for labor is a marked characteristic of American agriculture, and a large part of this machinery is supplied on credit by the manufacturer,² who takes the dealer's or the farmer's notes and in case of need discounts them, sometimes at the farmer's own bank³ but more often at some metropolitan bank. This form of credit, known as dealer's

¹ In 1909, 33½% of the white farmers of the South and 36% of the colored farmers had occupied their farms for one year or less, while of the tenants, who constituted about one-half of all the farm operators, 75% had occupied their farms for four years or less.

² The International Harvester Company declares that one-third of its business is on a time basis for a period longer than they care to have to sell on. Report of the International Harvester Company, United States Bureau of Corporations, 1913, p. 285.

³ Farmers' notes show a slight decrease in amount, while agents' notes are increasing. The International Harvester Company did not favor discounting at the local banks, since the dealers usually cash the notes and take the discount themselves. *Ibid.*, p. 285.

credit, flourishes even in regions where farming is well established and credit highly organized. There has been much discussion as to the cause of this condition and it is urged that the farmer pays more for this credit than he would for bank credit and that the manufacturer is often embarrassed for lack of funds to carry on the business. But there are certain good reasons for the existence of the system.

First, such credit is easily obtained. The dealer knows that the farmer's credit is good and that he can add enough to the price to make up for bad debts. Knowing that the farmer will buy more on credit, he does not encourage cash payment. A second reason is that the manufacturer can give credit for a longer period¹ than can the bank and that the security, which consists largely of the machine itself, is more acceptable to him than to the bank. Finally, the farmer often prefers to save his bank credit for other purposes.

In the past grave abuses have grown out of this form of credit. Farmers have been led into extravagant purchase of machinery and have involved themselves and the manufacturers in ruin. But tho there is still room for improvement, the past ten years have witnessed a revolution. While still willing to sell on time,² manufacturers have put their business on a higher plane. Their rates of interest are the same as those of the local bank and they exercise greater care than formerly in granting credit and are able to sell on time at practically cash prices.³

In factor's credit the loan is made, not in supplies but in cash, tho the purpose for which it is to be used

¹ The International Harvester Co. is extending time sales to articles formerly sold only for cash.

² The period varies from one to three years, but the two year period is increasing most markedly. Report on International Harvester Co., p. 284.

³ The notes bear interest before and after maturity; one price is quoted, and a discount allowed thereon for cash payment.

is rigidly prescribed. In the South the cotton factor advances the farmer the money for financing his crop, and the farmer contracts to plant a certain number of acres of a certain crop, cotton for example, and to sell his crop to the factor. In the North a livestock commission firm advances money to the farmer for the purchase of livestock, which he contracts to sell through the firm. This livestock is usually lean cattle but often it is breeding stock and in this case the debt may extend over a number of years and be gradually paid off with the returns from the stock or herd. Such credit is needed on account of the scarcity of local capital and because in some cases the loan is of such a nature that the bank cannot make it. Owing to the factor's special knowledge of the purpose for which the loan is made and his ability to watch its application, he can make the loan at less risk and at a lower rate than the bank.

The extent to which bank credit is used by American farmers varies widely according to the economic development of the community. Where agricultural methods are well established and climatic conditions are such as to preclude the probability of crop failure the farmer enjoys practically the same credit advantages as the merchant. This is due to the peculiarly favorable conditions of American agriculture. Farms are comparatively large and therefore the loans are of sufficient size to make it worth while for the banks to grant the accommodation. The farmers and the bankers belong to the same social class; indeed, the bank is not uncommonly owned and operated by the farmers themselves. Finally, our system of free banking has permitted the establishment of banks wherever they could be made to pay.

Conditions in Cass County, Iowa, may be taken as fairly typical of the banking situation in the better agricultural sections. The county has 17 banks with a total capital of \$690,000, total deposits of \$3,563,000, and loans aggregating \$3,345,000.¹ These banks are located in eight towns of which the largest, with a population of 4560, has five banks. Five towns with populations of 1118, 949, 603, 552 and 490, respectively, have each two banks, and two towns with populations of 266 and 239 have one bank each. All the towns depend on agriculture for their prosperity and the owners and patrons of the banks are mainly farmers.

Holmes estimates that in 102 counties of Illinois 921 banks afford two-thirds of all the personal credit obtained by farmers and that in Vermont the farmers obtain 70% of their credit from the banks, while in the southern states of Virginia, Georgia, Arkansas and Mississippi they get from two-fifths to three-fifths of their credit from the banks. For the country as a whole, outside the South, he estimates that from one-half to seven-tenths of the credit to farmers comes from the banks.²

Closely associated with the question of the amount of bank credit to farmers is that of its cost. Contrary to a common opinion, banks are no respecters of persons, and if the farmer pays more for his credit than other classes of producers, it is because it is more expensive to loan to him. As a rule this is the case. In the first place the credit required by the farmer is very different from that required by the merchant. The term is longer, renewals are more frequent, and partial payments are unusual. While the moral risk is good, payments are slow, supervision is more difficult and the average size of the loan is smaller. Altho the farmer's

¹ *Bankers' Register*, 1912.

² *Business America*, February, 1913, p. 123.

current account deposits have shown a decided increase in the last twenty years, they are not of sufficient importance to warrant the bank in loaning to him against his balance.

Since the average farmer receives his income in lump sums and at infrequent intervals, he makes savings deposits rather than current account deposits. The merchant, on the contrary, receives his income in daily increments, which he immediately puts at the disposal of the banks through current account deposits. Since, therefore, as the banker would say, the merchant is borrowing his own money he is entitled to a somewhat lower rate than the farmer. In a community mainly agricultural the large amount of interest paid on time deposits imposes a heavy burden on the banks. In the South and in the newer states of the West, time deposits usually bring 5% and often 6% interest and as long as such rates must be paid to attract and hold free capital in the community, just so long must the bank's borrowers feel the burden of high interest rates. Finally, since the credit demands of the farmer are not evenly distributed throughout the year, the bank often has idle money which it must invest in short term commercial paper at a rate lower than that charged the farmer for his loan. This is not, however, as is often stated, discrimination against the farmer, for if the bank did not invest in such paper, he would have to pay a still higher rate for his loan.

II. PROPOSALS FOR REFORM

For some years the sentiment has been growing, that agricultural credit facilities in this country are inadequate, that rates are too high, and that in general credit institutions discriminate against the farmer, who has

to get along with unorganized credit and endure the attendant evils. As remedies, there are suggested the formation of coöperative unions for the supply of personal credit and the creation of land mortgage banks, the funds of which shall be obtained through the issue of debenture bonds. Certain states have taken the initiative in this reform by the removal of the restrictions on the formation of coöperative credit unions or by holding out special inducements for the creation of mortgage institutions. During the last two years the question of agricultural credit has claimed the attention of the Federal Government, which, in coöperation with the Southern Commercial Congress, sent a commission to Europe in the spring of 1913 to make a first hand investigation of agricultural credit conditions.¹

EUROPIAN METHODS AND EXPERIENCE

In many European countries, interesting and instructive results have been attained in the development of agricultural credit. It is from France and Germany that the United States has most to learn in this connection. Within the limits of the present article it is possible to give only the briefest outline of the agricultural credit systems of these two countries;

In Germany the greater part of the personal credit of the owners of small and medium sized farms is furnished

¹ This joint commission, composed of (1) the American Commission, organized under the auspices of the Southern Commercial Congress and consisting of delegates from the different states of the United States and the different provinces of Canada and (2) the United States Commission, appointed by President Wilson, was itself known as The American Commission. Its voluminous report contains much valuable information on agricultural credit in Europe. But the essential points are often hidden in a mass of irrelevant material, and the unwary reader is likely to be led astray by inaccurate statements and faulty translations. Moreover, both statistical data and critical analysis are almost completely lacking. But the most serious fault of the report is the acceptance at their face value of the statements of men who, if not partisans of the institutions under discussion, are at least too intimately associated with them to be unbiased in their judgment. As a result, the report conveys altogether too favorable an impression. It would be instructive to compare this report with the above-mentioned English report by Cahill.

by the Raiffeisen coöperative banks. Previous to the formation of these banks, of which the first was founded about the middle of the nineteenth century, there were no organized credit institutions to which such farmers could apply. Hence they were dependent on private lenders and were preyed on by usurers. Their common need and their common racial and religious sentiment facilitated the establishment of the Raiffeisen organization, which was based on the parish community, with the teacher, the priest and the public official as leaders. Out of these elements there grew a credit movement which is the admiration of the world and which has brought untold blessings to the German peasants. Not only has it afforded them ample and cheap credit but through its educative influence it has brought about their social regeneration. But the advocates of a similar system for this country overlook the fact that the conditions which made the German movement successful are almost entirely wanting in the United States. American farmers are not poverty-stricken; they are not victims of the usurer, and they are not without organized credit facilities; in neither race nor religion have they any bond of union; nor is the teacher, the priest, or the official a leader in their community life. Furthermore, the struggle which has been required to create and maintain these institutions in Germany and to keep them true to their original purpose is too little understood in this country.¹

In France most of the farmers are men of small affairs and without experience in the use of bank credit and they were practically without organized personal credit until the last quarter of the nineteenth century, when such leaders as Durand, Rayneri and Rostand under-

¹ See minority report of The American Commission for an excellent statement on this point. — Sen. Doc. 261, 63d Congress, 2d Session, p. 7 seq.

took to do for France what had been done for Germany and Italy.

The various banks which these leaders founded have rendered splendid service to small farmers, especially in southeastern France. But so great were the obstacles to be overcome that the progress of the movement was slow and consequently the Government felt called upon to undertake the reform of agricultural credit. After various attempts, it finally created a system of local and regional banks, which derived their funds from free grants by the Bank of France. These banks have made loans to farmers at the discount rate of the Bank of France and often at a much lower rate. Yet, despite the tempting rates, the French farmers, much to the chagrin of the Government, have availed themselves of but a small portion¹ of these funds. No adequate provision for the reimbursement of the State has been made.

In Germany a large part of the mortgage loaning is done by institutions especially organized for the purpose: (1) the *Landschaften*, which are coöperative associations of borrowers; (2) the State and Provincial Banks, which are public institutions and (3) the Joint Stock Mortgage Banks which are commercial institutions organized under the Imperial Mortgage Bank Act of 1899. Of the other institutions which make mortgage loans, the savings banks are the most important. The total farm mortgage indebtedness in Germany is approximately \$2,000,000,000, and of this slightly over one-half is borne by the specially organized institutions, as follows; (1) the *Landschaften*, \$750,000,000; (2) the State and Provincial Banks, \$100,000,000, and (3) the Joint Stock Mortgage Banks, \$170,000,000. The

¹ Of the 100,000,000 francs withdrawn from business for agricultural credit but 42,000,000 francs are actually employed by farmers. *People's Banks*, H. W. Wolff, 1910, p. 449.

savings banks bear \$850,000,000. The special mortgage credit institutions derive funds from the sale of bonds issued against long time non-foreclosable mortgages. The savings banks, however, make the bulk of their loans against short time, foreclosable mortgages.

The 3.5% bonds of the *Landschaften* sell at the present time around 95 and net the investor about 3.7%. The addition of $\frac{1}{2}$ % to this rate to cover the costs of administration and the contribution to the reserve fund makes the farmer's rate from 4 to 4.5%. He also pays the costs of appraisement and of making out the papers. The rates of the State and Provincial Banks and of the savings banks are slightly higher, while those of the joint stock mortgage banks are from $\frac{1}{2}$ % to $\frac{3}{4}$ % higher. That German farmers enjoy exceptionally favorable rates is shown by the fact that *Landschaft* bonds bearing the same rates as Government securities are usually quoted only from 1 to 2 points below the latter.

The only special mortgage loan institution in France is the *Crédit Foncier*, founded in 1852. This institution was intended to render to the farmers of France the same service which the *Landschaften* render to those of Germany. It enjoys a monopoly of the right to issue real estate mortgage bonds, and has become a powerful and world-famed institution. But it has signally failed to realize the hopes of its founders. Of the total rural mortgage indebtedness of France, amounting to about \$3,000,000,000, a little less than $\frac{1}{10}$ is borne by the *Crédit Foncier*. Bonds recently issued (*e. g.* in November, 1912) bore a 4.5% rate. To this must be added the .6% allowed for administration and the expense of making the loan, which the farmer pays and which in France is very heavy. Therefore, the French farmer is paying about the same rate as the farmers in the best agricultural districts of the United States.

Impressed by the fact that in Europe debenture bonds play so important a part in mortgage loans, the advocates of the reform, whether state or federal, of mortgage credit in this country, base their various schemes on the issue of debenture bonds. But these enthusiasts have failed to understand the limitations of this very delicate credit instrument and, owing to lack of sufficient information, have exaggerated the success of Europeans in making debenture bond loans; and furthermore, they have not attached sufficient weight to the great differences between European and American conditions.

The debenture bond resembles the railroad bond and the industrial bond in being impersonal, since the borrower and the investor do not come into personal relation with one another; but it differs from them in being issued, not against a unit of property, under one management, but against a constantly changing mass of unrelated units of property, of which the management, in a country like the United States, may undergo a complete change in the course of a few years.¹ Owing to this peculiarity of the security of debenture bonds, the greatest caution must be exercised in their issue. Among the farms constituting the security, there must be uniform conditions, well established agricultural practices, little danger of disaster from crop failure or other cause and comparative absence of the speculative element from land values. Evidently the requirements are more nearly met in Europe than in the United States. In the greater part, indeed, of the agricultural area of our country they are not met at all. This is true of most of the South, most of the region west of the Missouri river and considerable parts of our best

¹ In the United States as a whole, in 1909, 30% of all farm owners operating their farms and 38% of all such owners whose farms were mortgaged had occupied their farms for less than five years. — Census Bulletin, *Stability of Farm Operators, or Term of Occupancy of Farms*, p. 1.

agricultural states, for instance, northern Michigan, northern Wisconsin, northern Minnesota and southern Illinois. And even in the same communities there are often wide variations in this respect.

The accurate appraisement of farms against which debenture bonds are to be issued is of the greatest importance. But it is exceedingly difficult, because farm incomes are subject to wide variation and farmers do not, as a rule, keep books. Hence, wherever debenture bonds are issued to a considerable extent, the appraisement is performed by public authorities, or if not, is usually based on public tax valuations. In Germany, the *Landschaften* make their own appraisement, but usually on the basis of the tax assessment lists; and the same method is used by those joint stock mortgage banks which, owing to their having been established before the law of 1899, are permitted to make their own appraisements.

Owing to its extreme centralization, the great mortgage bank of France, the *Crédit Foncier*, has found appraisement difficult and expensive; a fact which has tended to restriction of its farm mortgage loaning.

It is hardly necessary to point out that in the United States there is little to guide us in making appraisements. Changes in ownership are frequent, farmers keep books much less than in Europe, and tax valuations afford no guide whatever. Since debenture bonds are issued against long term loans, there must be supervision of each loan after it is made, to insure that the claims of the contract shall be lived up to, the taxes paid, depreciation of the property prevented, and so on. And as mortgages are gradually paid off and new ones substituted, great care must be exercised to prevent the impairment of the general security for the bonds through the substitution of inferior risks. In the

United States the expenses of appraisement and supervision incident to the making of debenture bond loans would be much greater than in Europe, and still further expense would result from the greater uncertainty of land titles.

The great cost of making debenture bond loans accounts for the fact that in Europe the small farmers have not been able as a class to avail themselves of the advantages of such loans, since the profits are more than offset by the cost of making them. Furthermore, while it is generally conceded that in the long run the small farmer is as good a risk as the large farmer, yet owing to his lack of reserves, there is greater danger of foreclosure or forced management; and these would involve expense out of all proportion to the size of the loan.¹ And finally investors are prejudiced against mortgage bonds issued against a mass of small loans.

The *Landschaften* are composed chiefly of large farmers. They do make some very small loans, it is true, but the number of such loans is comparatively insignificant and the average size of the loans is large. The joint stock mortgage banks of Germany loan almost exclusively to large land owners. The *Crédit Foncier* also confines its loans chiefly to large farmers, as the expense involved makes loans under \$1000 unprofitable.² In 1912 the average size of its agricultural loans was \$5000. The mortgage bond institutions of Italy grant each year only a very small percentage of the loans applied for. That the small farmer is not served is

¹ "Small landed properties are more wastable than is supposed, and require, owing to their various peculiarities of tenure and their shifting exigencies (registration and cancellation of charges, . . . postponement of payment, repayment of sinking fund accumulation, etc.), an amount of labour and time quite out of proportion to their profitability." — From an annual report 1909 of the largest German mortgage bank, quoted by J. R. Cahill in a Report to the (English) Board of Agriculture of an Enquiry into Agricultural Credit and Agricultural Coöperation in Germany, 1913.

² Fustier, L., *Réconstitution de la petite propriété rurale* (1911), p. 60.

shown by the fact that in 1912 the average size of their farm loans was \$18,000.

This inability of the credit institutions to satisfy the needs of the small farmer has led the various governments to come to the rescue by the establishment of special state aided institutions. In Germany these are the State and Provincial banks, noted above. In Denmark the constant complaint of the small land owners led to the establishment of special institutions, the bonds of which are guaranteed by the state. In France a recent law provides for state loans to small farmers.

The inability, however, of the debenture bond system, even with state aid, to meet the needs of the small farmer is illustrated by the history of the German state and provincial institutions. They have been excellently managed, and no pains have been spared to win the support of the small farmers. But while numbers of small farmers have been accommodated, the rigidity of the system leads many to prefer to patronize the savings banks or the private lenders despite the greater risk of foreclosure.

A further illustration of the inability of the debenture bond system to adjust itself to agricultural conditions is afforded by the fact that in Germany during the past decade the greater part of the new mortgage loans have been made, not by the debenture bond institutions, but by non-specialized agencies, altho the former have greatly increased the amount of their loans in other directions. This situation calls for some explanation. In the first place, with the increase of mortgage indebtedness in Germany there has been an increase in the proportionate number of the less desirable risks and also an increase in the percentage of mortgage indebtedness on the old risks, with a resulting decrease of the margin of

safety. Under such conditions, amortization is necessary as a means of security. But these very conditions make it difficult to exact amortization. Even farmers favorably situated as to debt find amortization payments burdensome. In Germany and Denmark, where it was formerly the general custom to require amortization of long time loans, the amortization principle was found to be unsuited to farming conditions; and except in the case of the German joint stock banks,¹ it has been practically abandoned save when amortization is needed to give added security.² It is perfectly evident that in the United States compulsory amortization would debar from credit not only the farmers of the newer regions where capital is scarce, but also those farmers of the older regions who are seeking to become owners and whose capital has been exhausted by the first payments.

Secondly, it has been found in Europe increasingly difficult to market the debenture bonds at favorable rates owing to growing competition of other securities.³ In this country it has been generally assumed that such bonds would be so eagerly sought by investors that they would bear a rate of interest second only to that borne by bonds of the Federal Government. The probable rate has been estimated at 5% and by many even at 4%. Here again, European experience has been disregarded. The bonds of the early *Landschaften* had the moral

¹ Moreover certain of these banks make some non-amortisable loans. For example, of the 211 loans made in 1912 by the Land Mortgage Bank of the Rhine, 34 were non-amortisable. — Senate Document 214, p. 322.

² "As a rule, in Prussia, the mortgages are never paid off;" when a farmer, for example, "has paid back, say 20,000 marks, he goes to the *landschaft* and asks for those 20,000 marks back again, and so the business continues." — Senate Document 214, p. 258.

³ The markets of the West, in particular those of Austria and Germany, which are of paramount importance for Hungary, have been simply flooded with securities issued in the respective countries. Senate Document, no. 214, p. 134.

support of a powerful king. In the oldest *Landschaften*¹ the security included all the property of the district, and in later times it has included all that of the borrowing members. The bonds were issued at a time when land was a chief source of wealth and therefore the main field of investment; and before the *Landschaften* were obliged to meet any considerable competition, their bonds had already become familiar to investors and gained their confidence — confidence, it should be added, which has never been abused. But despite these favoring conditions, the bonds have gained only a local market, and the attempt to broaden the market by the formation of a Central *Landschaft* was unsuccessful. It is admitted that under present conditions, the *Landschaften* cannot make loans at lower rates than can unorganized agencies. So that the only inducements they can offer borrowers are the longer term and the pre-payment privilege.

The *Crédit Foncier*, as is well known, resorts to a lottery to facilitate the sale of its bonds, but it does not attempt to compete with unorganized agencies for the mass of French farm loans.

If in Europe, despite the favoring conditions, the farm debenture bond finds a market with difficulty owing to the competition of other securities,² how many times more difficult would be the marketing of such bonds in the United States, where such favoring conditions are wanting, and the obstacles to be overcome are much greater! In this country land is not regarded, as in Europe, as the foundation of national prosperity, and land ownership is not the basis of social distinction both among people of high and of low degree, nor is there the

¹ With the exception, however, of the *Landschaft* of Kur- und Neumark.

² "The development of industry has produced a condition whereby these bonds are not as generally acceptable as before. . . . At the present time, therefore, there is greater difficulty than before in placing the bonds." — Statement of the Director of the *Landschaft* of Halle, Senate Document 214, p. 365.

same devotion to the farm home. And furthermore, social conditions are not such that farmers would be willing to assume joint liability. Our experience with land banks and debenture bonds has not been so fortunate as to inspire confidence in new ventures in this direction; and while it may be readily conceded that a repetition of the mistakes of former years may be avoided, it will take some effort to overcome the prejudice which these mistakes engendered.

Furthermore, the debenture bond would have to meet the competition of a flood of securities with which investors are thoroly familiar and in which they have confidence. Apart from corporation and municipal bonds, which have a wide market, there are in every locality, county, village and school district bonds which are backed by the taxing power of the community and the issue of which is carefully guarded. Such bonds, with few exceptions, bear a rate of interest much higher than that which the enthusiastic advocates of debenture bonds expect them to bear. How can it be expected that investors will pay more for a bond secured by a farm than for a school district bond practically secured by the mutual guarantee of all the farmers of the community?

Finally, there are already in the field excellent agencies — mortgage companies — with well established reputations and large assets, which give the investor all the advantages held out by the debenture bond company, with the added advantage, as regards securities, of having the individual mortgage turned over to him. And it is difficult to see wherein the debenture bond company could offer the borrower lower rates of interest or, in general, any better terms than these companies offer. The supposed advantage of market ability which is claimed for the debenture bond is of but little

practical moment, since, as we have seen, the market for such bonds is very restricted, and they are usually bought as a permanent investment.

Nor has state aid been of any great assistance in increasing the marketability of the bonds or, in general, in advancing the cause of agricultural credit. The state never allows itself to be treated as the ordinary investor. It always requires more and gives less. Making the bonds of the *Landschaften* legal investment for trust funds and the like has made it harder, Trosien¹ declares, for farmers to obtain credit from these institutions, because it has forced the latter to employ more rigid methods in making loans.

Not only does direct financial aid by the state tend to demoralize the individual, but in the long run it also dries up the sources of credit. This is the testimony of most of the Europeans who have given their lives to the solution of the problems of agricultural credit. Some of them at first advocated state aid; but when confronted with its results, they became its ardent opponents. In response to appeals from the leaders of the coöperative credit movement, for example, the Prussian Government established the Prussian Central Coöperative Bank; but despite the excellent management of the bank, it soon became apparent that it was stifling the coöperative credit movement, and the latter has for some time been trying to shake itself free from the Bank's grasp. In a recent letter to the writer, a leading German professor of economics states, "It is true that the central coöperative banks of the farmers, namely, the Agricultural Central Loan Bank of the *Raiffeisen* coöperative societies and the Agricultural Imperial Coöperative Bank in Darmstadt have not thriven well. The main reason is, that the Central Coöperative Bank

¹ Trosien, p. 27.

founded in Prussia with the aid of an interest-bearing state loan, has drawn to itself the equalization business of the provincial central coöperative banks. The Prussian Central Coöperative Bank is very cleverly and energetically administered, so that the competing institutions were in a difficult position." At the International Coöperative Congress in 1894, the question of state subventions received much attention. A few extracts will show the drift of the statements made on this occasion by the European leaders. Doctor Alberti of Germany declared, "Every manner of subvention by the state must be rejected. And my opinion, supporting this argument, is based on forty years' experience." Herr von Elm expressed strong objection to state aid and said that the state should confine its efforts to education and emancipating laws, that it should, "give the agriculturists elbow room and let them alone." M. Füredi of Hungary stated, "In spite of state aid lavished on the central credit organization, the rate of interest is 7 to 8% for money advanced by the state gratis out of the taxes"; and Doctor Karacsonyi, also of Hungary, declared, "There are no successes to be put to the credit of state aid. Money so lightly got is the producer of extravagance." Similar utterances came from Wrabetz of Austria, and from Chiousse and Durand of France.

LEGISLATION PROPOSED

In conclusion, a sketch may be given of the bills now pending in Congress for promoting agricultural credit.

The American Commission published its report in the autumn of 1913; and about the same time a bill known as the Fletcher Bill,¹ the provisions of which were

¹ S. 2909, 63d Congress, 1st Session.

supposed to embody the opinions of the Commission, based on their European inquiries, was introduced in the Senate. It provided for the formation of local and state land banks and a federal land bank situated at Washington. The local banks were to issue debenture bonds, which were to be guaranteed by the state bank, and if necessary by the central bank; and financial assistance from the United States Treasury was provided for.

Altho the Fletcher bill was supposed at the time to embody the opinions of the Commission, it did not meet with the approval of the Administration, and was subsequently withdrawn. In its place there was introduced, with the approval of the Administration, the Moss-Fletcher Bill.¹ This provided for the establishment of National Farm Land Banks to be under the immediate direction of a special Commissioner, who should preside over a Bureau of Farm Land Banks to be created in the Department of the Treasury. Such banks might be organized by any ten persons contributing a minimum capital of \$10,000, of which 50% was to be immediately paid up. They were empowered to accept local deposits up to 50% of their paid up capital and surplus, to receive postal savings funds to the same extent on a par with other Government depositories, and even to engage in general banking business. But their chief power lay in their right to issue debenture bonds against rural real estate mortgages for a period not exceeding thirty-five years. Bonds were to be issued only against loans running for more than five years. The bond issue was limited to 15 times the capital and surplus of each bank and was to be secured by first mortgages on farm lands located in the state where the bank was situated. An attempt was made

¹ H. R. 12,585, 63d Congress, 2d Session.

to give standing to the bonds by making them legal investment for time deposits of national banks and of savings banks in the District of Columbia and for trust funds and estates administered by the United States courts, and by providing that they might be used as security for loans from national banks to national farm land banks or to individuals. The value of the mortgages was to be at least equal to the par value of the bonds outstanding. The rate of interest charged for the loan should not exceed the rate on the bonds by more than 1%, which should cover all administration charges. The bill also prescribed the purposes for which loans might be secured: (a) to "complete the purchase of agricultural lands mortgaged; (b) to improve and to equip such lands for agricultural purposes; and (c) to pay and discharge debts secured by mortgages or deeds of trust on said lands." Loans were not to exceed 50% of the value of improved farm lands, or 40% in the case of unimproved land. The appraisal was to be made by a committee of three, appointed by the board of directors from their own body.

Numerous other bills were also introduced at about the same time as the Moss-Fletcher Bill, among which the Bathrick bill deserves attention.¹ This provided for loans by the Government, at a rate not to exceed 4½%, to farmers direct or through farm credit associations which should become surety for all mortgages made through them. The Government was to borrow, at a rate not to exceed 3½%, the funds to be used for this purpose; and the distribution of such funds was to be made by a bureau to be established in the Department of Agriculture.

Extensive hearings on the Moss-Fletcher Bill were held, during which the impression gained ground

¹ H. R., 11,597.

among members of Congress that this was not radical enough to satisfy the farmers, that it was a bankers' bill drawn in the interest of the lenders rather than of the borrowers, and that it was inadequate to afford the needed relief. It was claimed that the Bathrick Bill had the support of the farmers' organizations. The hearings also brought out the fact that the Moss-Fletcher Bill by no means met the unanimous approval of the members of the Commission.¹ The upshot of the matter was that the Moss-Fletcher Bill was withdrawn and the Committee on Banking and Currency gave out the statement that an expert had been summoned to draw a new bill. This was subsequently introduced under the name of the Federal Farm Loan Act.²

The Federal Farm Loan Bill differed radically from its predecessors. It aimed to create a system analogous to the newly established federal bank system. Its administration was placed under the control and direction of the Federal Reserve Board, which was to appoint a Farm Loan Commissioner. Any number of natural persons not less than five might form a National Farm Loan Association, whose application for a charter must be passed upon by the Farm Loan Commissioner. The capital stock of such an association should not be less than \$10,000; and this stock might be taken on the Building and Loan Association plan. The coöperative principle was also recognized in the provision that loans should be made to shareholders only. The association was to have the power to make loans on first farm mortgages only, the rules governing the making of the loans following the general lines of the Moss-Fletcher Bill except that no power to issue bonds was

¹ Those members of the Commission who were opposed to the bill subsequently issued a minority report stating the reasons for their opposition.

² H. R., 18,478.

granted the association and that appraisal was placed in the hands of the Farm Loan Commissioner.

The Federal Reserve Board further was to establish as many Federal Land Bank Districts as there are Federal Reserve districts. In each one of these districts there should be organized a Federal Land Bank, with nine directors, three appointed by the Board, six elected by the farm associations. Each association must subscribe for at least \$1000 of capital stock of the Land Bank and each Land Bank must, before beginning business, have at least \$500,000 in capital stock. In case a bank failed to get this amount subscribed "it shall be the duty of the Secretary of the Treasury to subscribe the said unsubscribed balance." The Land Banks (not the associations) were to have power to issue, subject to the approval of the Federal Reserve Board, and to sell farm loan bonds at a rate of interest on such bonds not to exceed 5%. The trustees of the postal savings banks were directed to employ in the purchase of farm loan bonds, if they could be obtained below par, the funds withdrawn from postal savings depositories; and they might use their discretion in purchasing them at par. It was further provided that the Secretary of the Treasury, on application from one or more of the Federal Land Banks, should purchase from the Land Banks farm loan bonds not previously issued or sold, in an amount not to exceed \$50,000,000 in any one year. Varied and far-reaching powers of supervision were given to the Federal Reserve Board.

This bill should have met the approval of those who believed that the Moss-Fletcher Bill did not go far enough. It was certainly not a bankers' bill, because all chance for private initiative and all possibility of profit were shut out. Moreover, there was a superabundance of Federal supervision and financial assistance. But

this Federal assistance was made dependent on the formation by private initiative of farm loan associations and the bill carefully removed all incentive to such action.

The Administration, however, soon let it be known that it was unalterably opposed to the granting of financial aid by the Federal Government, and all attempts to put through a rural credits bill were abandoned for the current session.

A perusal of the numerous bills presented and of the voluminous reports of the hearings must convince one that there is an utter lack of adequate information as to the actual credit needs of the farmer and of the extent to which existing agencies are supplying them. And moreover, when one studies the measures in detail he discovers that instead of profiting by the experience of Europeans our legislators have proposed measures which these have avoided or abandoned. Credit agencies in great variety have come into being in the United States to meet the demands of an undeveloped, unstandardized agriculture. The evils of this lack of credit organization have been greatly exaggerated, but the time has probably come for more organization. Such organization must, however, be attained gradually, and adapted to the peculiar conditions of this country. European methods must be used with caution. It is exceedingly doubtful, for example, whether the debenture bond system is feasible for any considerable part of the country. If European experience has anything to tell us about state aid, it is "Beware."

While there is need of federal legislation, the bills thus far introduced have provided for too much centralization and too much federal interference in a country as large as this and with such varied conditions. A general plan of organization for the entire country is requisite;

but it should be left to the individual states to determine the practical details of administration and control. The conditions of agriculture in this country do not warrant special legislation, such as has been proposed, limiting the operations to agricultural land; nor are the farmers asking for it. Not only does such legislation do violence to our political sense, but in this particular case it would defeat its own end.

In the final analysis, the solution of the problem of rural credit is in the hands of the farmers themselves. They must put their business on a more efficient basis and must learn to work together for their mutual interest. The former is a problem of farm management, the latter, one of rural organization. That the shortcomings of the American farmer in both these fields have at last been forced on the attention of the nation is evidenced by the many praiseworthy efforts which are now being put forth by so many agencies to remove these obstacles in the way of agricultural progress.

JESSE E. POPE.

A CONTRIBUTION TO THE THEORY OF COMPETITIVE PRICE

SUMMARY

The method of stating the laws of competitive price, 747. — Economics as a theory of limits, 750. — The factor of time, 751. — Fixed capital and joint cost, 754. — Price is indeterminate, 755. — Capital with limited mobility, 760. — Factors affecting extent of price cutting, 762. — Agreements and potential competition, 767. — Conclusion, 770.

IN formulating economic laws, the student has the choice of two policies. He may make the statement in the simplest terms, leaving out most of the disturbing elements, which must then appear as forces causing variations from the standard. Or he may so state his law as to include as many of these disturbing elements as possible, thus sacrificing simplicity, but gaining in completeness, and cutting down the number of necessary exceptions. Such a formula includes automatically the simpler cases covered by the other type of statement. Thus the physicist's parallelogram of forces needs no readjustment in the limiting case of two forces acting in the same line, and our mathematical friends frame an equation for the ellipse which simplifies itself automatically when the two foci coincide and the ellipse becomes a circle. This type of law is characteristic of the more exact sciences, while students of economics still seem to prefer treating the ellipse as an exception to the circle rather than the circle as a simple form of ellipse. We are too easily content with treating inconvenient facts as exceptions to static law, rather than earnestly undertaking to unearth the laws that govern

these facts — laws which must contain the static law as the ellipse contains the circle.

It is hardly necessary to say that this implies no criticism of the abstract method of static theory within its proper field. None will deny that it is "necessary for man with his limited powers to go step by step, breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle."¹ But it is the last step that costs. It takes resolution to go forth from the ease and beautiful simplicity of a well-formed hypothesis and struggle with amorphous facts. It takes more than resolution to win through to some degree of order and of truth. The question at issue is how to attack the problems of dynamic theory: what method to use in trying to bring order out of those phases of the actual world which the static hypothesis was not framed to cover. If one were to say that the same abstractions used in static theory would never do as a basis for dynamic studies he would rouse about as much interest as by stating that black is not white. And yet to many people "theory" seems still to mean "static theory" and dynamic studies seem sometimes in danger of degenerating into mere exceptions to static law.

Even Marshall, who has said that "every plain and simple doctrine as to the relations between cost of production, demand and value is necessarily false,"² still keeps touch not only with the static method but with static conclusions. Shreds of discarded hypotheses still cling to his argument and he still gives us deviations from static law at points where we had reason to expect something more radical.

¹ Marshall, *Principles of Economics*, Book V, chap. v, § 12.

² *Ibid.* The writer's own indebtedness to Marshall is so great and so obvious as hardly to call for acknowledgement in detail.

Is it possible that the loss of prestige from which economic theory has suffered comes partly from the vast number and importance of these exceptions? Where exceptions rule, the theorist is no better off than his opponent: he is reduced, if not to the level of the man in the street, at least to that of any educated and informed man of no special theoretical training. And if the exceptions grow, as they seem to be growing with the increasing complexity of business relations, what wonder if many economists turn aside from theoretical study? All the more reason, then, for a determined effort to make room within the theories for as many as possible of the obstinate special cases and exceptions. The tendency of progress in our theoretical study is all in this direction. Thus the statement of the quantity theory of money with its blanket phrase "other things being equal," gives way to the detailed statement and quantitative study of the chief of these "other things" in the "equation of exchange." Could not the method of stating the law, or laws, of competitive price be developed in the same direction with advantage?

Men have a way of ignoring things until an extreme case forces them into the field of attention, then recognizing the one extreme case as an exceptional one, and finally discovering that all other cases are like it, to some extent. The economic peculiarities of specialized capitals and "general expenses" furnish a case in point. We learned first that a railroad is not like a soap factory; the next step was to learn that a soap factory is more or less like a railroad, and that the things we thought peculiar to railroads are, in fact, wellnigh universal. The discovery of "potential competition" as a check on trusts may lead to the further discovery that most competition is potential, active competition being limited in many fields by understandings and informal agreements.

ECONOMICS AS A THEORY OF LIMITS

The study of these facts is dynamic theory, and in approaching it, it may be well to "stop, look and listen"; and even to ask what economic theory really is before asking how dynamic theory is different from static. Economic theory is essentially a theory of limits. Strictly speaking and with a view to practical applications, it is not so safe to say that competitive price tends to equal the expense of production as to say that the difference between competitive price and expense of production tends to become smaller than any assigned quantity. Of course this depends on the assumption that the supply can be adjusted with infinite delicacy. If capital and labor can come and go in infinitely small instalments, it makes no practical difference whether we say "price equals cost" or "price approaches cost as a limit"; and the static hypothesis furnishes these conditions by assuming perfect mobility of labor and capital.

But when we cut loose from this assumption and begin to study "dynamic disturbances and friction," we enter a world to which the theory of limits can no longer be applied in the same simple way. Capital and labor are mobile, but not ideally so; they come and go under difficulties and in instalments of some size. Suppose a man trying to put just five pounds of water into a pail. He cannot do it exactly, perhaps, but he can come so near that he cannot measure the difference. But five pounds of potatoes? If he must put in at least five pounds, all he can be reasonably sure of is that he will not go over the limit by more than the weight of the smallest available potato. So it is with capitalistic production. Infinitesimals are clearly out of the question when the marginal increment of capital

consists in double-tracking a railroad or building a modern steel plant. Even a new grocery store or barber shop in a small town may make just as big an impression on the local market as the steel plant on the output of the nation.

Aside from these facts, the chief peculiarity of dynamic theory is its dependence on time, in contrast to static theory, which is virtually timeless. Let us consider some of the simpler consequences of this fact before going on to the more complex problems of fixed capital and joint-cost production. And always let us keep in mind the attitude of the mathematician seeking an equation that will include under a single statement the ellipse as well as the circle.

THE FACTOR OF TIME

We have, apparently, several "laws of normal competitive price." In the case in which different units of output involve different expenses of production due to causes that are permanent and inevitable, we have one statement of the normal level of prices, and in the case in which different producers have, from avoidable causes, different expenses of production, we have two other statements. There is a short-time tendency of price toward the level of the expense of producing the article in question in the establishment of a rather inefficient producer who is, for the time being, the marginal one. And there is a long-time tendency of price toward the expense of the most efficient methods of production, which we consider the less efficient must imitate or be displaced by the enlargement of the superior establishment.

These three laws can, if desirable, be included under the one statement that within any given period of time,

the normal price for that period is equal to the highest unit expense that must needs be incurred in order to complete, at the end of that period, a rate of output large enough to bring the price down to the level of the aforesaid highest expense.¹ This form of statement may not be suited to the popular lecture platform, but it includes all three of the cases above mentioned, in a way that shows conclusively (if there were any doubt in the learner's mind) that the laws governing these cases are not inconsistent nor even disconnected from each other, but phases of one principle.

By "normal price" is meant a price such that if the actual price goes lower than the normal, some one can "make money" (or avoid loss) by doing something that will tend to raise it, and if the actual price is higher,

¹ The objection might be raised that the above method of formulating the law of price exposes itself unnecessarily to the charge of circular reasoning which arises (mistakenly) out of the undeniable facts that both selling price and marginal expense of production are variable functions of the same third variable, supply; while the direction and rapidity of changes in supply are a function of the difference between the marginal expense of production and the selling price.

To put it mathematically, let P = price, S = rate of supply,

E = expense and T = time.

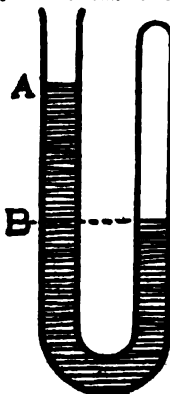
Then $P = f_1(S)$ and $E = f_2(S)$ and also $\Delta S = f_3(P - E) \Delta T$, an expression which we know goes to zero if S increases indefinitely.

Or, if we put $S_1 + \Delta S_1 = S_2$ and $T_1 + \Delta T_1 = T_2$ and substitute for ΔS_1 , P and E their functional equivalents, we have $S_2 = S_1 + f_3 \{ f_1(S_1) - f_2(S_1) \} \{ T_2 - T_1 \}$.

If that be inviting the charge of circular reasoning, the difficulty is inherent in the facts, and we can gain nothing by shirking the issue under any form of statement. Indeed, if we do evade the issue, we are fleeing from a dragon which may devour other victims. We lose an opportunity to impale a fallacy which may be strong enough to discredit much perfectly valid reasoning.

Here is no more circular reasoning than would be involved in the mechanical explanation of the exact volume of air in the closed end of a curved tube (see diagram) after a given quantity of water has been poured in the open end.

The volume of air depends on the pressure exerted, measured by the height of the column of water A B, which depends in turn on the law governing the manner in which the pressure of the air increases in response to a reduction of its volume. But the apparent circularity of this reasoning does not prevent the water in the tube from finding a level, quite definitely determined by forces beyond its own control, a level which a physicist could calculate in advance with perfect accuracy. Nor is the writer aware that the physicists are cutting each other's throats over the rival claims of the column-of-water theory and the elasticity-of-air theory as explanations of the problem.



a similar "economic force" will be set to work whose effect must be to lower it. Therefore we must specify a period of time. Suppose that within a year's time it will be impossible, without producing some cloth that costs 10 cents per yard to weave, to satisfy the demand of those willing to pay that much for the service of weaving. What matter if the best plants can do the work for 7 cents, and what matter if in ten years' time these plants will have been enlarged and others will have copied their methods until the whole demand can be satisfied at the lower price? What matter if there be a further tendency for the expense to fall still lower as the best methods are improved upon? It remains true that if, for any reason, the price be lowered below 10 cents within the year, the forces of economic equilibrium will act at once to raise it again to 10 cents, not to lower it still farther. This price appears to satisfy the requirements of "normal price" so long as the calculations are limited to one year's time. It would seem that in this case the force of competition, tending to bring price down to 7 cents per yard, is not nullified by obstructions, but rather reversed in its effect by the conditions which govern it. With reference to the ten-year period 7 cents per yard is the marginal expense of weaving, while with reference to a period of one year, 10 cents per yard is the marginal expense.

The static state knows no limits of time, and hence differences in costs do not exist for it, so far as they spring from innovations, or can be eliminated by imitation, or by the absorbing of weak enterprises and the extension of strong ones. The only differences to be recognized by static theory are permanent ones.¹ The

¹ Hence the application of the above law to a static state is much simplified and quite obvious. This is equally true, whether we do or do not choose to count rents and royalties among the expenses of production. Cf. Marshall, "Principles of Economics, Book V, chap. v.

student of actual conditions, however, is dealing with disturbances where time, and the speed with which actions and reactions occur, is of the utmost importance. The rate at which demand can grow, the periods over which it fluctuates, the time needed to enlarge, reduce or improve the facilities of production, and even the speed with which a reduction of price reacts on the amount sold — all these facts are grist for his mill. He must study everything in terms of time.

FIXED CAPITAL AND JOINT COST

The most obstinate cases remaining outside the law of price as thus formulated are those of joint-cost production, either of different articles or of different units of a homogeneous output,¹ especially where the joint outlay represents an investment of highly specialized capital. Are these facts to be treated as mere disturbances and their effects measured as variations from a static norm, or can a law be framed broad enough to include them?

In the first place, the writer doubts if even a stationary state would be free from the effects of such phenomena, if we were to imagine such a state developed out of the present condition by stopping the processes of change and giving the factors of production unlimited time to find their level.² Some forms of capital cannot be shifted without loss, no matter how much time is allowed for the piecemeal transfer of the depreciation fund; a railroad embankment, for instance, or a tunnel.

¹ The writer does not insist on this extension of the term "joint cost." The reader may, if he chooses, think in terms of prime cost and supplementary costs or of fixed and variable outlays, and the argument will be unaffected. Believing that the same principle governs, whether the product is one thing or many, the writer feels that it would promote clear thinking to let this unity appear in the terms used and so he prefers one word to cover both cases.

² This is not just the assumption of the perfect "static state," though it has been used sometimes for illustrative purposes as a working approximation.

Moreover in any large industrial plant, as well as in a railroad, the depreciation account is managed with reference to keeping the value of the plant undiminished in its original use and in continuous operation — not with reference to scrapping the entire outfit at some time and building new. There is no moment in the normal career of a large manufacturing plant when it goes to pieces like the one-hoss shay, and the depreciation accounts are not accumulated with any such catastrophe in view. As a result, they would not be large enough at any time to rebuild the establishment entire, scrapping the original equipment and getting out without loss. Therefore in such cases producers would find it better to endure even permanently a loss of some part of the usual rate of income on their capital, rather than undergo the loss of a larger part of the value of the capital itself in shifting it to some other enterprise.¹

PRICE IS INDETERMINATE

Thus even in the longest of long runs we should be compelled to admit that, in some cases, price would be indeterminate between two levels, one high enough to attract new capital and labor into the business, and another lower level, at which some of what is already in

Exception may be taken to this form of statement by those who hold that capital is nothing other than earning power capitalised. Obviously, if this terminology be adopted the foregoing argument becomes impossible in its *present form*. But if the relation of expense to price is to have any meaning at all, the term "expense" must have some reference to the actual outlay involved in investment, and the result of changing the definition of capital would only be to shift the real issue over to the question of the normal relation between the earnings of capital and the expenses of reproducing it. And under this terminology, the entire argument of this paper could, if necessary, be restated without losing any of its validity. The question at issue is in part the same that is treated on pp. 285-288 of Professor J. B. Clark's *Essentials of Economic Theory*.

For the purposes of the present study, which is primarily from the individualistic standpoint, we may assume a rate of interest, and not undertake here the solution of the objection that the cost of reproducing capital includes interest on other capital. This paper is not a study of the theory of interest.

would be forced out. For we must admit that a certain amount of excess producing capacity might continue indefinitely. It is only by virtue of assuming a demand that grows, but never shrinks, that the economist can say that "price tends to equal the expenses of production, including interest on investment."

Even Marshall's argument proves no more than this, tho it appears to carry much farther. If we look for an exact definition of the expenses of production which govern normal price, we become involved in a confusion quite foreign to Marshall's usual reasoning. At one point we read "the marginal supply price is that, the expectation of which in the long run just suffices to induce capitalists to invest their material capital."¹ Obviously, it is growing investments to which this statement applies. But two pages farther on we read: "Price must be sufficient to cover the expenses of production of those producers who have no special and exceptional facilities; for if not they will withhold or diminish their productions and the scarcity of the amount supplied, relatively to the demand, will raise the price. Again:"² "Supplementary costs are taken to include standing charges on account of the durable plant . . . they must be completely covered by it (selling price) in the long run; for if they are not, production will be checked." Apparently these costs are taken as identical with the "marginal supply price" of new investments, cited in the preceding paragraph. But farther on we read:³ "For the capital already invested in improving land and erecting buildings, and in making railways and machinery, has its value determined by the net income (or quasi-rent) which it will produce; and if its prospective income-yielding power

¹ *Principles of Economics*, 5th ed., p. 497, cf. p. 359.

² *Ibid.*, pp. 359-360.

³ *Ibid.*, p. 593.

should diminish, its value would fall accordingly and would be the capitalized value of that smaller income after allowing for depreciation." Accepting this last, supplementary costs become equal to whatever the business can earn over prime costs, and the minimum limit on price turns into a vanishing quantity.

If the value of invested capital is derived from its earning power, obviously there is no meaning in the statement that the price of the product is governed by the necessity of earning the current rate of interest on the value of the capital. And if the "interest" which governs the selling price is the interest necessary to attract new investments of capital, obviously it will only be effective in a condition of growing demand.¹ Marshall sees that if price is governed by expense the governing expense must include no land rent, else there is circular reasoning.² Apparently he does not appreciate the consequences of the fact that he has himself placed standing investments of capital on the same footing as land and thus ruled their earnings out of the category of marginal expenses of production.

So much for the question whether price may remain permanently too low to pay interest on the full amount of the investment, if some of that investment is irrevocably fixed.

But in actual business the important question is not whether capital can move without loss if an indefinite time is allowed, but whether it can move fast enough to keep pace with the fluctuations of business. And a very great part of business capital is fixed with sufficient permanence so that all it can do in a period of depression is to wait for the turn of the wheel. With respect

¹ This statement does not of course allow for the fact already mentioned that renewals have "supply prices" like new investments, so that the "depreciation fund" may be shifted from an unprofitable enterprise.

² *Op. cit.*, p. 409, cf. p. 593.

to the periods covered by the fluctuations of prosperity in individual businesses, or by our more or less regular cycles of general activity and stagnation, such capital is fixed. The result is that the most pessimistic investor cannot withdraw such capital from a business, once it is in, while the most optimistic can always put in more. The level of such investments is like the maximum indicator of a self-recording thermometer. During considerable intervals it stands as a monument to the warmth of past enthusiasms, the summit of past hope. Thus periods of excess producing capacity are normal to modern business even tho the capacity is not too great for the demand of active seasons. This is true of so many businesses that it begins to appear virtually a universal condition varying only in degree. The structure of an ordinary retail store is fixed capital, while the fact that joint outlays affect the price problem even in retail trade is evidenced by the discrimination and higgling that are the vexation of the tourist in Europe and the chief business in life of the bazaar trader of the Orient.¹

The typical example of capital which must be held partly idle through regularly recurring periods of slack demand is the plant of an electric light and power company, which must be in "readiness to serve" a "peak load" far greater than the average consumption, and which cannot store its service, even for a day. Of course the times and seasons of the daily and yearly changes in demand can be pretty well calculated, making the problem much simpler than that of business cycles and other fluctuations of an irregular sort. And of course the problem of charges for electricity is not the problem of competitive price. But the bottom

¹ As a further instance of the effects of joint cost, the writer recently found that a firm was selling the same grade of candy for 35 cents per pound, in bulk, or 55 cents per pound in boxes. Rather an expensive box!

facts of the situation are the same. Public service companies make low rates for current taken at times of the day when demand is slack, to encourage a more steady and therefore more efficient use of the plant. The United States Steel Corporation has attempted the opposite policy of "steadying" prices. Competition, again, tends to lower them sharply in slack seasons. Which is the wisest plan? It is a suggestive comparison.

To what level, in these circumstances, does active competition tend to bring prices? If prices are above the total expense of production in marginal establishments¹ there is an obvious force set in motion to lower them. To be sure, if business men were perfectly rational and ideally well-informed, they would not tie up capital in new fixed plants² unless the returns more than covered the outlay over the whole period of one of our business cycles. But then, if business men were all thus prescient, the great cycles would not happen. If we assume the cycles, we must also assume their causes, so far as we know them, including as one of these the behavior of the business man who invests as long as prices more than cover outlays, even tho it be at the high tide of prosperity. Under active competition, price tends to be not higher than the expenses of production, in the sense that if it does go higher, a force is set in motion to lower it.

When we come to the forces tending to raise prices when they have gone unduly low and to study the level at which these forces begin to act, the problem is more complicated. Assuming active competition and no collusion of any sort, we may say that even when unused capacity sends prices below the cost level, competitive

¹ Defined with reference to the period of time in question, as stated on p. 751 above.

² Fixed, in the sense that they cannot be shifted without serious loss within the period of a single swing of the pendulum of business activity.

policy shows no force acting definitely to reduce the excess supply, until they go below the level that affords no return on the specialized plant but merely covers the variable expenses, including interest on such capital as can be shifted without loss within the time limits of the problem. This capital would be, roughly, the same that is commonly classed as "working capital" by business men. At this point some plants must needs be partially or wholly closed, and the fall in prices checked, tho it might not be stopped until some establishments well above the margin had temporarily closed down, the price going below their variable expenses.¹ Indeed, if the fall in demand be only sharp enough, there is no assignable minimum for the temporary fall in prices, short of the variable expenses of the most efficient producers.

CAPITAL WITH LIMITED MOBILITY

Some further refinements might well be added to this statement. In the first place, it fails to take into account the fact that some capital is strictly fixed, while some could be moved with a certain loss to the owner. For capital of this latter sort, earnings could never quite reach the zero point without an exodus that would be somewhat less disastrous than a shutdown. To include all varieties of capital under a general statement, we might say that the minimum would be set at

¹ Strictly speaking, even the permanent downward tendency of prices would not be entirely stopped if there were so much difference between the efficiency of the poorest producer and the most efficient ones that the latter could earn profits well above the general rate on their investment while the former was earning nothing at all above maintenance on his. A producer as inefficient as this, however, could not be even a marginal producer by the definition here adopted, but would be already below the margin, defining the latter with reference to a period of, say, five years or more. In such a case the "tendency to minimum cost" would operate unmodified. But a more typical condition in periods of depression is that in which even the best producers are not making profits enough to tempt them into extending their operations on a large scale.

the point where the loss of earnings of the whole enterprise (measured from the general rate as a standard) for the period covered by the calculations of the more foreseeing of the entrepreneurs in question, should be equivalent to the loss in the value of the capital resulting from a hasty transfer, plus the unavoidable loss of earnings in the interval before the transfer could be made complete. As the accuracy of this statement is no greater than the estimates of the future on which it all depends, it would be more curious than profitable to reduce it to a mathematical formula.

Moreover, the statement only applies in case the level of price as thus determined is high enough to afford some return to the more or less fixed capital. In practice, if the business men in question carried their calculations no farther ahead than, say, six years, assuming that by that time there would be a recovery from the depression in which they found themselves, and if the capital in question would lose 12 per cent of its value if transferred in four years' time or 24 per cent if transferred in two years, and if the rate of return be taken as 6 per cent, such capital might as well stay where it is and endure a total loss of earnings for the full six-year period. And if entrepreneurs were more optimistic as to the prospects of recovery, they might keep their capital in the business even tho it were much more mobile than these figures represent. Thus we find that in practice the first rough statement of the law is near enough to accuracy, for an equation one side of which depends on business men's power of prophecy.

Another complication arises from the fact that the waves of prosperity and depression have their effect on the cost of production itself. Running at part capacity raises unit costs. But this is chiefly because the bur-

den of joint outlays becomes heavier, and the greatest part of these have already been taken into calculation. Part of the loss may be borrowed from past or future through temporary economies in maintenance. What is left may be offset against the other kinds of losses in efficiency that arise from over-activity,¹ and the resultant may fairly be ignored. If it could be calculated in any given case, the result would be merely to increase or to minimize somewhat the quantitative variation in prices from one period to another, without affecting the qualitative statement of the forces that determine prices at either time.

FACTORS AFFECTING EXTENT OF PRICE CUTTING

But is there no way of judging how far toward this minimum limit the price is likely to fall in any given case? One statement would be that the price must fall in response to a falling-off of demand until all the productive capacity is at work which can earn anything above variable expenses at the new price-level. But common experience testifies that mills begin running at part capacity long before prices reach this level.

The statement is hypothetical, based on the implied assumption (among others) that a cut in prices, no matter how small, will at once enable the producer who makes it to take custom away from his competitors and so must necessarily enlarge his net earnings if he had any at all to start with. The corresponding assumption of the static law of price has no need to specify any rate at which business can be captured, for static theory is timeless. But to make valid a parallel conclusion in dynamic theory, the premise must be specific as to time. If new business is slow in coming in, after a cut in prices,

¹ Discussed in Mitchell, *Business Cycles*.

the immediate result will be a falling off of revenue, not an increase.

Obviously, it is not possible to transfer the allegiance of customers in an instant by any cut, no matter how small, in prices. Some approach to this would be possible in articles of standardized quality easily tested, where competition centers in price. But wherever the buyer's opinion of quality is important, and cannot be verified before every purchase, it must depend on past experience and on advertising, and furnish an inertia too great to be quickly overcome by minor changes in the price of one or the other brand of commodity. The only customers who would be attracted would be those who were hesitating already; not those who had fairly strong opinions as to the relative merits of their favorite make of article. For such articles, any serious attempt to take business away from competitors involves the time and expense of an advertising campaign. But a period of depression is not the time when expensive tactics of this sort are much indulged in. Therefore producers of this kind of goods will probably rely merely on the customary channels of advertising and can expect only a relatively slow response to any cut in prices. And in proportion as the gains are slow in coming in, the prospect of retaliation must loom larger and the motive to price-cutting be weakened.

Another element affecting the extent of price-cutting is the fact, so far disregarded, that bankruptcy awaits those who fail to cover not merely the variable outlays but interest on bonds and notes as well. It is true that a receivership does not necessarily end the competition of a corporation, even tho it can never earn the full interest contracted for. And for purposes of static theory we may be justified in regarding interest on all capital as included in the expenses of production and

ignoring the different forms of ownership or credit obligation under which it is held. But the prospect of a receivership may have a very decisive effect on the immediate policy of any business manager, tho it works in devious ways that are hard to fit into any formula. Under one set of circumstances it might operate to check price-cutting and under other conditions it might precipitate a war. A producer whose solvency is in no immediate danger will be loth to begin a struggle which may end by sending prices no one knows how low. He will rather bear the evils that he has than fly to others that he knows not of, and will allow his plant to run at part capacity. But the dangerous man is the one who cannot adopt the Fabian policy without defaulting payment of his obligations. Perhaps his running expenses are high or he has mortgaged his property too heavily, or, worse still, he is called on to repay short-time loans which he has counted on being able to renew. In such a situation he cannot weigh the chances of retaliation; the prospect of renewed prosperity in a few years has no meaning for his present need. He will not even be deterred by the uncertainty whether he can enlarge his sales fast enough to save himself, any more than the uncertainty whether he can swim ashore or not will deter a man from jumping into the water if his boat is sinking.

If we can generalize at all as to this situation, it must be in the most indefinite terms. We may say that if the most efficient producers have borrowed conservatively, and the least efficient have been more reckless, the latter may go into receivers' hands without involving the leading establishments in anything that would amount to cut-throat warfare. But if there are among the efficient some who have used credit incautiously, the liability to heavy price-cutting is much increased,

especially if the plants of less technical efficiency have avoided the financial drag of heavy fixed interest charges.

It is thus not possible to say definitely that the behavior of prices is governed solely by the extent to which the demand has fallen off. But it is none the less obvious that this fact is the prime cause at work, and that those industries will suffer the greatest losses in which, beside the fact of highly specialized equipment, there are great fluctuations of demand. Probably the greatest fluctuations occur in the demand for durable capital goods, while luxuries take second place.

A further disturbance confronts us when we realize that the rock-bottom prices may not be made on all of the output, but higher ones may be charged in such sheltered nooks of the market as are not open to the full fury of the competitive struggle. Discrimination is one normal result of these conditions, wherever the nature of the product, the situation of markets, and the legal and ethical standards of business conduct are such as to permit it. However, as it depends on some parts of the market being sheltered, and so not fully competitive,¹ we are justified in excluding it from our type-case and giving it separate treatment.

We may note in passing, however, that the smaller the proportion of his business that is exposed to cut-throat competition, the more free a producer is to cut prices without fear of bankruptcy. If his necessary interest charges are assured by customers for whose business he need not fight, he may cut prices freely to

¹ This does not imply anything worthy the name of monopoly; merely local differential advantages of one sort or another, chiefly due to freight rates. These might be brought under the general theory of competitive price on the principle that active competition at Kokomo means potential competition at Pittsburgh, with the handicap of transportation costs weakening its effect. If the Kokomo price is a cut-throat price, the Pittsburgh price may yield more or less than a fair average return to the Pittsburgh producer, depending on the amount of protection the costs of carriage afford him.

get other business, down to the level of variable expenses. But if his competitor is less fortunate, and is forced to compete actively for all or most of his trade, he cannot cut prices as low as this without going bankrupt, unless he happens to be entirely out of debt. Thus size is an advantage, apart from productive efficiency, and a big concern may drive to the wall a smaller one which is equally efficient, without ever cutting prices so low that they yield no return over the variable expenses of the business; for the smaller producer, whose costs may be just as low, cannot afford to cut prices all the way down to them. In view of these facts, the statement that the "trust loses money in one place and makes it up in another" is hardly an accurate description, as the trust may not be really losing money anywhere, merely charging what the traffic will bear at every point.

To sum up, then: the extent of price-cutting depends, among other things, on the variability of the demand, the situation of both weak and strong producers with regard to credit obligations, and the nature of the product — whether such that competition centers chiefly in price, or in advertising, salesmanship and the building up of "good will." In fact, it depends on so many things that it appears hardly worth while attempting to generalize further than to indicate the determining factors, leaving any special cases to be studied with whatever aid these general guide-posts may furnish.

So far as active competition goes, then, prices would seem to be indeterminate between the two levels suggested. It will be noted that this indefiniteness vanishes if the element of specialized capital invested for the business as a whole be eliminated. As this disturbing element gets smaller, the two levels approach each other, meeting in those rare cases usually taken as

points of departure in considering the law of price, viz: those in which unit costs are calculable, and either uniform or else governed by the law of diminishing returns.

But if normal competitive price is indeterminate over a zone which lies entirely below the level of expense of production, how can business continue? In the first place all that is claimed is that if price does go above this level, that fact starts in motion a force acting to lower it; a force that necessarily takes time to work and might be prevented from ever attaining its result if progress went on without a check. Progress — growth of demand and improvements lowering expenses — is one saving grace in the situation. And it must also be remembered that so far we have only considered a state of ideally (or fiendishly) active competition, which is far from representing accurately the real state of business in these days of cosmopolitan friendships and long-distance telephones.

AGREEMENTS AND POTENTIAL COMPETITION

In practice, we observe that mills begin running on part capacity long before prices reach the low level suggested as a minimum limit. And we also hear of secret agreements, while tacit understandings are matters of common knowledge. In the steel industry there were the "Gary dinners," intended to meet the danger of cut-throat competition in a business whose producing capacity cannot help being in excess of the demand (at reasonable prices) for a considerable part of the time. And before that there were "unwritten laws" against using idle capacity to invade the field of competitors. The indefinite nature of such practices defies deductive analysis, while the many disturbing elements preclude

accurate inductive tests. But the observer gains — shall we call it an impression ? — that these things are becoming more definite, regular and recognized, resulting in a condition that is hardly active competition, a condition in which the real check on prices is that force to which the name “ potential competition ” has been given. This not merely in the case of trusts, but as a normal thing in the field of general industry.

Is the effect of potential competition any more definite than that of the active variety ? Provisionally, we may say that so far as it operates at all, it tends to eliminate profits save to producers whose methods are at least reasonably efficient. The expense of establishing a new enterprise as a “ going concern ” is a handicap, which will always serve to weaken the force of potential competition and so protect the profits of the most efficient producers already in the business. There are reasons for believing, also, that a system of agreements checked by potential competition may not always prove the most effective guarantee of increasing what efficiency we possess. Together with an obvious stimulus to improvements, it may also involve quite serious wastes.

Latent competition must lose most of its force unless it sometimes become actual. No proverb says that the child who is told that his older brother was burnt, dreads the fire. But what if these bursts of active competition end in merely initiating one new member into the circle and again agreeing on prices that will prevent any new intrusions for the time being ? If the old price was higher than active competition would have brought about, there must have been some spare capacity already in the business — a condition which the new arrival would aggravate without suffering from the painful corrective of a disastrous fall in prices.

If periodical over-investment is normal to a state of active competition, may not over-investment in such a case as this be, not periodical, but chronic? In this new state there is little room for elimination of the unfit save in the most extreme cases. But there is no surer guarantee of inefficiency than a considerable number of producers, all working at part capacity and all earning at least interest on their investment. And this is a kind of inefficiency of which the prospective competitor could take no advantage for it does not spring from poor facilities for production, but from a wastefully large amount of them. Tho the existing plants, *as run*, are inefficient, no new enterprise could hope to be less so. In such circumstances is it not more nearly correct to say that the expense of production is raised to meet the price, rather than the price lowered to the level of the expense of production?

This form of waste probably has its best chance to operate subtly in mercantile business. Any one can tell if a factory is running on part time or running only part of its machines, and such a condition warns off possible invaders, but it is not equally obvious whether or not the middleman's rooms and office force, and his facilities for handling and storing his stock, are being worked up to their full capacity. The retailer's capacity is perhaps even more elastic, and the entrepreneur's own time represents a general outlay which is usually important and is equally necessary for a small or a large volume of business.

Moreover, understandings as to prices are supposed to be particularly prevalent among middlemen, while the relatively small capital needed to enter such business makes it especially easy for new competitors to enter. Wherever the manufacturer succeeds in fixing the final selling price and the dealers' margins, we have a situa-

tion admirably calculated to multiply the number of dealers competing for sales at these fixed margins until earnings are reduced to a normal level by reducing the dealers' average turnover. The American middleman is just now the target of the most serious accusations of inefficiency, beside which railroad rates and even crude farming methods sink into insignificance. Can these facts have any connection with each other, and if so, is this a case in which agreements have resulted in overcrowding the business with competitors and so reducing efficiency all around ?

CONCLUSION

Summarizing now the main points in the foregoing argument, we may say that under dynamic (or actual) conditions, competitive price need not normally tend to equal expense of production, but may differ from it by some fairly definite amount. And we have seen that there may be different marginal expenses of production and different marginal producers corresponding to different lengths of time covered by the study in question. Taking fluctuations of demand as part of the "normal" data of dynamic economics, and interpreting "marginal expense" and "normal price" in terms of a length of time no greater than the usual run of these business cycles, certain conclusions as to "normal price" were reached. Price tends to equal the expenses of production only if demand grows continuously or if the expenses are none of them "fixed." In general, normal price under active competition is anything from the amount needed to cover total expenses in marginal establishments down to the level of "prime" or variable costs to the more efficient producers.

However, the typical condition in businesses of large fixed investment is not one of "active competition" in the strict sense, but is coming to be more and more a condition of tacit understandings if not agreements, in which the true force governing prices is that of "potential competition." The latter does tend to bring the level of prices to the level of the total outlay involved in production, but the combination seems likely to produce a certain amount of waste. With either kind of competition there is normally a temptation to discrimination to be dealt with in times of slack demand, so long as there is a fixed capital investment to be remunerated.

Admitting that discrimination may still best be treated as a variation from type in competitive business, especially as the law seems to be taking a more and more decided stand against it, may not the other disturbances here treated be absorbed into the general statement of the law of competitive price? One incidental result would be to throw new emphasis on the study of potential competition and the need of better and more systematized knowledge of its operation and effect — a need which at present is becoming increasingly evident.

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LATER DEVELOPMENTS IN THE UNION PACIFIC MERGER CASE

SUMMARY

First attempt to dissolve the combination of the Harriman lines, 772. — Opinion of the Supreme Court, 773. — Second unmerging plan, 774. — Difficulties encountered in separating the Southern Pacific from the Central Pacific, 775. — Attitude of the Pacific Coast, 778. — The State Railroad Commission of California refuses to approve proposed leases and other contracts in California, 785. — Modified version of the second unmerging plan, 786. — Third plan successful, 787. — Distribution of Baltimore and Ohio Stock, 789. — Final outcome of the proceedings, 790.

IN an article in this Journal for February, 1913, the writer discussed the decision of the Supreme Court in the Union Pacific Merger Case. Since that time there have been developments which justify mention. It will be recalled that the decree of the Supreme Court in the decision of December 2, 1912, called upon the Union Pacific to divest itself of the ownership of the Southern Pacific, altho it declared that nothing in the Court's instructions was to be construed as preventing the Union Pacific from retaining the Central Pacific property from Odgen to San Francisco. In response to this decision the Union Pacific immediately prepared to distribute its Southern Pacific holdings among its own individual stockholders. The action was in accordance with precedent in the Northern Securities, Standard Oil, and Powder cases, and there was some hope that it would be approved, in spite of the opposition of the Attorney-General.¹ As it turned out, the

¹ The Attorney-General desired that the shares be distributed among the holders of Southern Pacific stock as well as among holders of Union Pacific stock. Reporters'

hope was without foundation. When the matter was submitted to it in December, 1912, the Supreme Court curtly declared the plan inadmissible. "The ultimate determination of the affairs of a corporation," said the Court, "rests with its stockholders and arises from their power to choose the governing board of directors. After such distribution as is now proposed, the stockholders of the Union Pacific Company may dominate and control not only the Union Pacific Company but the Southern Pacific Company as well."

This decision made it necessary to revise the original project completely. At the same time the insistence of the Attorney-General that the Southern Pacific should dispose of the Central Pacific made it seem advisable to avoid further litigation by including a transfer of the Central Pacific Railway to the Union Pacific in the dissolution plan. The step was taken reluctantly. It appears that the question was referred to eminent counsel, and that the Southern Pacific agreed to sell only when it had become convinced that the Central Pacific could not be retained, and on the assurance that the Attorney-General would bring pressure to bear upon the Union Pacific in order to compel that company to offer a satisfactory price.¹ There is some reason to believe that the Union Pacific was more eager to buy than the Southern Pacific was to sell. Whatever the preference of the parties, the result of the negotiations appears in the second unmerging plan, approved by Southern and Union Pacific directors on February 6, 1913. This plan had also the sanction of the Attorney-General.² The Union Pacific now proposed to sell the

Transcript of Testimony in Application 409 before the State Railroad Commission of California, pp. 158-159, Sproule, referred to hereafter as "Transcript of Testimony." See also a statement by the Attorney-General in *New York Journal of Commerce*, December 19, 1912.

¹ Transcript of Testimony, pp. 162-164, 195, Sproule; pp. 32-33, Lovett.

² *New York Journal of Commerce*, February 10, 1913.

1,266,500 shares of Southern Pacific stock in the treasury of the Oregon Short Line to stockholders both of the Southern Pacific and of the Union Pacific Companies. With the proceeds of \$84,675,500 of this stock, less commissions and syndicate expenses, together with \$14,065,441 in cash and \$5,449,000 in Southern Pacific bonds, it offered to buy the 672,755 shares of Central Pacific common and the 174,000 shares of Central Pacific preferred owned by the Southern Pacific Company. The price suggested was therefore in the neighborhood of \$104,000,000, which was approximately the cost at which the stock stood upon the Southern Pacific books. Judge Lovett has said that he never expected to give so much,¹ and in fact a price equivalent to \$123 a share seems liberal in view of the quotations of other six per cent stocks at the time. The responsibility for the Central Pacific funded debt of approximately \$200,000,000 was assumed by the Union Pacific. This occasioned no disturbance of outstanding securities, except in the case of the Central Pacific four per cent, 35-year European loan of 1911. Unfortunately, however, certain clauses in the indenture covering this issue caused a good deal of trouble. The loan was for 250,000,000 francs, and had been floated in France in March, 1911. It was guaranteed by the Southern Pacific and was secured further by collateral. In order to protect their clients the French bankers who handled the issue had

¹ According to Judge Lovett the Central Pacific was not likely to be as valuable to the Union Pacific as it had been to the Southern Pacific because the latter company would divert traffic to the Sunset Route. (Transcript of Testimony, pp. 50-52, Lovett.) Only the grant of certain preferential rights in California and the fact that the Southern Pacific stock owned by the Union Pacific was tied up pending settlement induced him to consent. (Transcript of Testimony, p. 62, Lovett.) Mr. Schlacks, Vice-President of the Western Pacific, on the other hand, thought the Central Pacific a bargain at \$104,000,000. He asserted that this sum, after adding outstanding bonds and deducting treasury assets, yielded a price of about \$100,000 per mile, which was about what the Western Pacific had cost to date. The Central Pacific, however, had larger facilities than the Western Pacific, better equipment, and a more fully developed territory. (Transcript of Testimony, pp. 317-318, Schlacks.)

stipulated that the Southern Pacific should not sell or pledge its holdings of stock in certain specified subsidiary companies, including the Central Pacific, during the life of the bonds, nor lease, sell or merge the properties named without their consent. Just one alternative was given: namely, that if the consent of the bankers was asked and refused, the Southern Pacific might after forty days declare the entire issue due and payable at the next interest date.¹ When the Southern Pacific decided to sell the Central Pacific it found these clauses in the way. An issue of refunding bonds could not have been sold early in 1913 except at a heavy discount. In an attempt to secure the French bankers' consent to the separation of the Southern and the Central Pacific, the Union Pacific offered to give its own guarantee for the security of the European loan and to substitute Union Pacific for Southern Pacific collateral. When this proved insufficient, it proposed a lease of the Central Pacific to the Union Pacific, and for these reasons such a lease became a feature of the second unmerging plan.²

It was originally intended to pay for the Central Pacific stock by transferring to the Southern Pacific \$84,675,500 of Southern Pacific stock held by the Union Pacific, along with the cash and bonds previously referred to. But the fact that the Southern Pacific was not permitted to purchase its own stock under its charter, nor reduce its capital except in the manner prescribed by Kentucky statutes, made the exchange impossible.³ The price at which the Southern Pacific stock was offered to stockholders was 98.67 plus accrued dividends, and the sale was underwritten at the same price by a syndicate

¹ Article III, Sect. 3 of the indenture dated March 1, 1911.

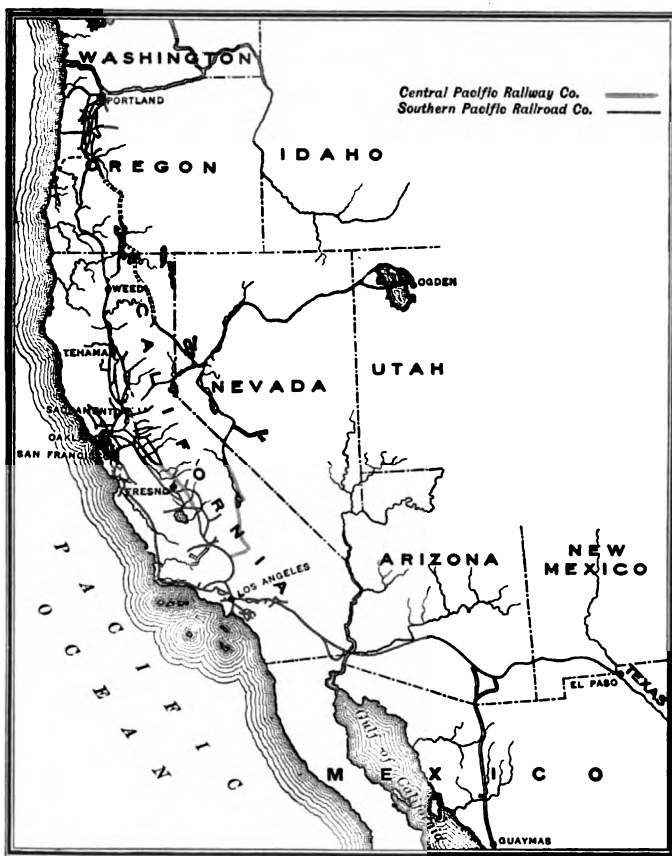
² Transcript of Testimony, pp. 28-31, Lovett.

³ *Ibid.*, p. 11, Lovett.

managed by Kühn, Loeb & Co.¹ An essential feature of this plan was the grant of superior subscription rights to Southern Pacific stockholders. That is to say, the holder of every four shares of stock of the Union Pacific was given the right to subscribe for one Southern Pacific share, but the holder of every three shares of Southern Pacific stock was to have the right to subscribe for a similar amount. The preference thus accorded Southern Pacific stockholders was deliberately intended to diminish the influence of the Union Pacific in the Southern Pacific, by giving shareholders of the former a smaller holding of Southern Pacific stock than they would normally have acquired. On the assumption that all stockholders availed themselves of their subscription rights the stockholders of the Southern Pacific would have owned 71 per cent of its capital stock after the unmerging was completed, while those of the Union Pacific would have held only 29 per cent.

It was realized at once by those familiar with conditions in the West that the proposed separation of the Central Pacific from the Southern Pacific raised problems of unusual complexity. The two systems have been treated as a unit since very early days. They were originally financed by the same parties, have been operated as a unit in the same interest, have used the same equipment, and have drawn on the same funds for extensions and improvements. The accompanying map will show how hopelessly intertwined their mileage has become. The Central Pacific in all the years since it was first built has never entered San Francisco over its own rails, nor reached any port along the Pacific Coast such as San Diego, San Pedro, Santa Barbara, Monterey, or Santa Cruz. It does not even possess the short line from Sacramento to Oakland, but controls only a

¹ Cf. Transcript of Testimony, p. 105, Lovett.



round-about route via Tracy and Niles. On the other hand, the Oregon lines are dependent upon the Central Pacific for connection with the Southern Pacific in California, and a quantity of Southern Pacific branches such as those from Raymond to Berenda, and Lodi to Valley Springs, are totally separate from the company which built them.

The situation at the Oakland terminal is especially complicated. The ferry-boats which connect San Francisco with the western end of the main transcontinental line at Oakland are owned by the Central Pacific Railway. The pier at which these boats dock is held by the Southern Pacific Company under a fifty year lease from the City of Oakland that expires in 1960. The steam railroad tracks upon the pier are owned by the Central Pacific Railway. For a space of something over 1300 feet east from the line of low tide these Central Pacific tracks pass over land owned in fee simple by the Southern Pacific Company, to arrive at property sold by the old Contract and Finance Company to the Central Pacific Railroad in 1872. Beyond this, trains are operated over land held by the Western Pacific Railroad Company under an easement which dates from 1870; and beyond this still comes land which the Western Pacific Railroad Company owns outright under deed of sale of 1874.¹ Until two or three years ago the railroad officials themselves were ignorant of the extent of the tangle to which long continued common management of the Southern Pacific and the Central Pacific had given rise.

In view of this mingling of ownership a certain number of mutual concessions formed a necessary part of the plan to separate the Southern and the Central Pacific companies. These may be listed as follows:

¹ The Western Pacific Railroad Company which built the original line from Sacramento to Oakland should not be confused with the Western Pacific Railway controlled by the Gould interests.

(1) The lease for 999 years by the Central Pacific of its line of railroad from Tehama, California, to the Oregon boundary, to the Southern Pacific Railroad Company at an annual rental of 5 per cent.

(2) The sale by the Central Pacific to the Southern Pacific Railroad Company of the line of railroad, now partly completed, from Weed, in Siskiyou County, California, to Natron, Oregon.

(3) The lease for 999 years by the Southern Pacific and the Southern Pacific Railroad Company to the Central Pacific of its line of railroad from Sacramento by way of Benicia to Oakland at an annual rental of $2\frac{1}{2}$ per cent. This lease was to give to the lessee an equal joint use with the Southern Pacific Company and no other line was to be admitted to joint use without the permission of the Central Pacific.

(4) The lease for 999 years by the Southern Pacific and Central Pacific to one another of the joint use of their respective terminals, including industry tracks, at all junctions of their respective lines within city limits.

(5) The lease for 999 years by the Southern Pacific Railroad Company and the Southern Pacific to the Central Pacific of trackage and running rights over the lines of the former companies between Redwood City and San Francisco, for through freight trains only, at an annual rental of 5 per cent.¹

In addition the leases of the Central Pacific and allied lines held by the Southern Pacific were cancelled as a matter of course.

Under these arrangements the plan was not impracticable. The whole scheme, however, had to face determined opposition on the Pacific Coast.² This was based on the following considerations.

¹ In the matter of the Application of Central Pacific Railway Company et al. Decision No. 477. Railroad Commission of California, p. 6.

² See, for example, the *San Francisco Chronicle* of February 6, 1914.

In the first place, it was alleged that the breaking up of one system into two would impair service and increase rates on local business. This traffic is heavy. It includes shipments of fruit from orchards to canneries, oil from the interior and coal from the seaports to consuming points all over the state, lumber from Northern California and Oregon to the south, dairy products from the country to the cities, and merchandise in the contrary direction. It is observed by shippers that freight moving from a station on one system to a station on another already takes materially longer than freight sent an equal distance over one line. Similar differences exist in passenger service. The rate expert for the State Railroad Commission has pointed out that trains to Bakersfield which move through Tracy, Lathrop, Modesto, Merced, Fresno and Goshen, using the Central Pacific to Goshen and the Southern Pacific beyond that town, would be sent through Tracy, Kerman, Fresno, and Exeter, or through Tracy, Kerman, and Goshen, if restricted to the use of Southern Pacific tracks alone.¹ The particular example is badly chosen, in that the short line mileage from Tracy to Bakersfield over the Southern Pacific is only six miles greater than the mileage of the combined Southern Pacific-Central Pacific route. Yet some disadvantages there may be. Even a cursory study of the location of the Harriman lines in California shows that Central Pacific points on the east side of the San Joaquin valley are likely to find their connection with San Francisco impaired by a division of the system into two parts, and that Southern Pacific points such as Armona or Kerman will be unable to reach Santa Cruz or Monterey as easily as before. Nor can there be any assurance that service which is more expensive to render will not be

¹ Transcript of Testimony, pp. 425-426, Sanborn.

sold at a higher price. Mr. Sproule, indeed, pledged his company to oppose an increase in charge due to conditions arising out of the separation of the Southern Pacific and the Central Pacific;¹ but such a pledge is unsatisfactory security when greater costs are constantly tending to produce higher rates.

Many people also believed that the separation of the Southern Pacific and the Central Pacific would not increase competition on interstate business to any noticeable extent. It was the opinion of the State Railroad Commission that the Southern Pacific would be so weakened by the loss of its feeders in Central California and by the passing of the line from Oakland to Ogden from its control that it would be unable to meet the Central Pacific north of the Tehachapi on equal terms.² Doubtless the chief consideration here was the fruit traffic. Most of the oranges from points north of Fresno now move via Ogden and will continue to do so. The same is true of the deciduous and citrus fruit from Northern California. Mr. Sanborn of the Commission's staff has testified that most of the fruit, deciduous and citrus, originating north of the Tehachapi, would use the Central Pacific rather than the Southern Pacific if the present combination were broken up.³ The Southern Pacific would suffer from the loss of this profitable traffic, and would be subject, in addition, to peculiarly severe competition from the Panama Canal on the business that was left. Certain clauses in the mutual concessions of the Central Pacific and the South-

¹ Transcript of Testimony, pp. 152-156, Sproule.

² "The Central Pacific would have a line," the Commission said, "into all the points south of Tehama of importance except perhaps Woodland, and as far down the state as Gooben. It would come into San Francisco over the Benicia route and would be able to go in by way of the narrow gauge line and the broad gauge line from Owensby to Mojave covering about all the territory in the state." Transcript of Testimony, p. 36, Eshleman.

³ Transcript of Testimony, pp. 422-423, Sanborn.

ern Pacific seemed also likely to hinder competition on interstate business. This was particularly true of the lease by the Central Pacific and the Southern Pacific to one another of the use of their respective terminals, including industry tracks within city limits, and the granting of traffic rights to the Central Pacific over the Benicia line from Sacramento to Oakland. A well informed railroad man has estimated that seventy-five per cent of the business of a city like San Francisco is handled to and from industry tracks or team tracks, and only twenty-five per cent to and from the freight houses. As a long-established road, the Southern Pacific possesses valuable terminals in and about San Francisco, Oakland, San José, Fresno, Stockton, Sacramento, Marysville, and many other smaller places. It follows that so long as the Central Pacific, alone among transcontinental roads, has access to these properties, no new road entering California is likely to do much business.

A few illustrations will show the difficulties which a competing company, the Western Pacific, has already had to face. The Southern Pacific accepts cars which come in over the Western Pacific for delivery at Southern Pacific industry tracks in San Francisco, but demands $7\frac{1}{2}$ per cent of the Missouri river rate, amounting to 15 per cent of Western Pacific earnings on traffic from the Missouri river, as compensation merely for its switching service. When the traffic originates at competitive points west of Colorado common points the switching charge becomes \$7.50 per car. Thus a car switched from an industry on a Southern Pacific industry track at Stockton and transported by the Western Pacific for delivery to an industry on Southern Pacific tracks at San Francisco pays \$7.50 at each end, or a total of \$15.00, which is as much as the carload rate from San Francisco to

Stockton on some classes of business. Nor is the switching charge the only difficulty. On traffic from Colorado, Kansas, Nebraska, Texas, and Missouri River Territory, which is delivered to the Southern Pacific by the Western Pacific at interchange points and which is destined to stations not served by the Western Pacific, the Southern Pacific exacts 23 per cent of the terminal rate as a division, plus any local arbitrary or rate added to the terminal rate in computing the charge to destination. On traffic from towns east of the Missouri River the 23 per cent applies to the earnings west of the river.¹ Vice-President Schlacks of the Western Pacific has testified that the Western Pacific has to pay the Southern Pacific 50 per cent of the terminal rate plus local charges in some cases in order to secure delivery at destination of freight which the Western Pacific has brought to California.¹ It is an interesting fact that the Western Pacific received only 54.3 per cent of the revenue west of Salt Lake City during the six months ending in October, 1911, on business interchanged with the Southern Pacific, altho it did 91.8 per cent of the hauling.² Shippers at San Francisco hope that eventually the Chicago and Northwestern, the Burlington, the Rock Island, and other roads as well as the Western Pacific will build through to the coast.³ A far-sighted policy will hold the way open to them. Very much the same objections apply to exclusive use by one or two railroads of the Benicia cut-off, that have force when

¹ Memorandum of Interchange Arrangements between the Southern Pacific Company and the Western Pacific Railway Company. Application 409, Railroad Commission of California, Western Pacific Exhibit No. 1.

² Transcript of Testimony, p. 295, Schlacks.

³ Application 409, *supra* cit. Western Pacific Exhibit No. 4. When the Harriman interests prepared the second unmerging plan they thought it wise to provide explicitly that existing divisions should not be regarded as precedents or otherwise taken into account in the adjustment of new divisions between the Central and the Southern Pacific. Transcript of Testimony, p. 54, Lovett.

Wheeler, Wm. R. Transcript of Testimony, pp. 405-406.

free access to San Francisco industry tracks is under discussion. The cut-off is a short line between Sacramento and Oakland which has reduced the distance between the cities 40 miles, and the time for passenger trains about two hours. It is not used for freight, but it affords a conclusive advantage on passenger business over the round-about routes of the Western Pacific or of the Central Pacific via Niles and Tracy. Undoubtedly the Southern Pacific could not be required to open its terminals or its Benicia line to any other road except of its own free will, but there are definite grounds of public policy for insisting that it give the same facilities to all that it accords to any connection.¹

Besides these two main objections there were certain characteristic charges made. It was maintained by the *San Francisco Chronicle* that the dissolution plan in its entirety was a device to rob the Southern Pacific for the benefit of the Union Pacific, which was directed by leading interests in the latter company and was carried out by means of dummy directors who at no time had the interest of the Southern Pacific at heart. This charge would have been plausible had the original directors elected by the Union Pacific remained on the Southern Pacific board while negotiations were going on, but it has little probability in view of the fact that the directors of the Southern Pacific who were also directors of the Union Pacific resigned in January, 1912; that the successors of these gentlemen were approved by the Attorney-General; and that the shares owned by the Union Pacific were not voted in the next annual election. It appears, also, that a protective stockholders' committee representing independent stockholders was formed in New York immediately after the first decision

¹ The approval of the Attorney-General to the second unmerging plan did not include an approval of the provisions relating to industry tracks and to the Benicia Short Line. He did not consider these matters. Transcript of Testimony, pp. 5-6, Lovett.

of the Supreme Court. This committee took part in all subsequent proceedings and approved the plan of reorganization finally selected.¹ Another insinuation with probably as little foundation was that the Kühn Loeb & Co. syndicate had moulded the terms of the unmerging plan so as to make Southern Pacific stock an undesirable investment, in order that stockholders of the Southern Pacific Company might be deterred from buying, and that the syndicate dominated by Union Pacific interests might secure control; thus perpetuating an arrangement which the Supreme Court had condemned. The amounts involved, the widely extended membership of the syndicate,² and the fact that the price of Southern Pacific stock did not advance after the failure of the second unmerging plan are evidence against the truth of this statement.

The conviction that for these various reasons a separation of the Central Pacific and the Southern Pacific would work injury to the Pacific Coast aroused public sentiment in that section to an unusual degree. As it happened, the consent of the State Railroad Commission of California was necessary to the execution of the leases and sales in California which formed an integral part of the dissolution plan. Application was made to this Commission in March with a result which might have been expected.³ The Commission heard testi-

¹ Transcript of Testimony, p. 192, Herrin. See also a letter by Mr. Kruttschnitt, reprinted by the New York Journal of Commerce, January 13, 1914.

² About \$40,000,000 was placed in Europe. Transcript of Testimony, p. 65, Lovett.

³ Judge Lovett insisted at this time that the California Commission must approve the plan in its entirety or not all. The following question and answer passed between the Judge and President Eahleman:

Commissioner Eahleman: Your position, then, Judge Lovett, is that any conditions that might be imposed which would either add to the burdens of the Union Pacific or take from the burdens of the Southern Pacific, or any conditions whatever which were not exactly in accord with this contract, would bring about the defeat of the project as it is now presented?

A. Yes, Mr. Chairman.

Transcript of Testimony, pp. 111-112, Lovett.

mony for three days, and then refused its approval. Its main opposition ran to the lease of the Benicia Short Line and the joint use of terminals including industry tracks. It also opposed the 999 year term of certain leases, and insisted that the rentals in all cases should be subject to its approval as to their amount. In general the Commission was opposed to the sale of the Central Pacific local lines to the Union Pacific, and suggested as an alternative a sale or long time lease embracing only the line of the Central Pacific from Ogden to Sacramento, with trackage rights from Sacramento to Bay points; but it recognized that this feature of the agreement was not subject to its control. A supplemental opinion indicated in some detail the arrangements which the Commission would approve.

This adverse report was rendered on February 24, 1913. The syndicate agreement to underwrite Southern Pacific stock expired on March 15th. In the attempt to avoid the loss of \$1,266,500 in commissions the railroad interests agreed promptly to modify their plan,¹ and to propose a sale and lease of the Central Pacific to the Union Pacific without provision for the joint use of the Benicia line, the joint use of terminals, and the trackage and running rights from Newark to Redwood, and from Redwood to San Francisco. Judge Lovett wired the new suggestions to his attorneys at San Francisco on March 12th for submission to the California Railroad Commission. He declared that the Commis-

¹ The commissions to the underwriting syndicate had been set at two per cent of the entire \$126,650,000 besides expenses if the plan went through, in addition to which Kühn Loeb & Co. were to receive a compensation of one per cent of the same amount for their services. If the plan should fail the syndicate was to receive $\frac{1}{2}$ of one per cent and Kühn Loeb and Co. $\frac{1}{2}$ of one per cent besides expenses. It was stipulated that expenses should not exceed $\frac{1}{2}$ of one per cent.

See Syndicate Agreement of February 10, 1913, and accompanying correspondence, Application 409, Applicant's Exhibit No. 1. This commission was to be paid by the Union Pacific and the Southern Pacific respectively on the basis of shares to be distributed to their stockholders. Transcript of Testimony, p. 201, Sproule.

sion might approve the minor leases and sales subject to its reserved power to revise the valuations, but that the approval of the lease of the Central Pacific to the Union Pacific must be given immediately and unconditionally, or the necessary proceedings could not be held before the Circuit Court at St. Louis soon enough to prevent the expiration of the underwriting syndicate, and the failure of the entire plan.¹ There seemed reason to believe that certain traffic agreements between the Central Pacific and the Southern Pacific formed part of the modified arrangement. Certainly Judge Lovett had stated that the price of 104 million dollars for the Central Pacific included a payment for exclusive privileges at San Francisco. If such rights did not appear in the agreement it was natural to suspect that they were provided for outside, and this later proved to be the case. Influenced by a suspicion of this kind, the Commission refused again to consent to the plan proposed. "It is not our disposition," it said, in a long telegram to the Attorney-General, under date of March 14th, "to stand in the way of the substitution of the Union Pacific for the Central Pacific in the control of the property of the Central Pacific in the event the Union Pacific is permitted to secure all the stock of the Central Pacific . . . but there is certainly no reason why the Union Pacific, through the Central Pacific at Sacramento, should be regarded by the Southern Pacific as a preferred connection as regards the short line of the Southern Pacific by way of Benicia to Oakland. . . . According to the only information we have, gleaned from the press, the Union Pacific is to pay the same amount for the property as was contemplated in the original plan. If this be true, . . . we are certainly justified in the assumption . . . that the Union Pacific

¹ Transcript of Testimony, p. 531, Cotton.

at least thinks it is getting the same thing by this alternative method which the Commission prevented it from getting by the former method."

With a laudable perseverance Judge Lovett and his associates now took up the task of preparing a third plan. They first secured an extension of time from the Supreme Court from May 12 to July 1, 1913. They then abandoned negotiations for the control of the Central Pacific and concentrated their energies on the disposition of the Southern Pacific stock without reference to the Central Pacific. It is true that the attitude of Mr. McReynolds, now Attorney-General in place of Mr. Wickersham, led to resumption of attempts to include the Central Pacific in the plan, but these proved fruitless and were finally abandoned. It is apparent that the conditions which the new scheme had to meet were simpler than those which had confronted the old, and the managers doubtless considered it no small gain to be able to disregard the California Railroad Commission. Under these favorable conditions the plan progressed rapidly to its final form in May. In its essential features it may be described as follows. First, and most important, the Union Pacific disposed of all its Southern Pacific stock. Of its total holdings, \$38,292,400 went to the Pennsylvania Railroad Company in exchange for \$42,547,200 of Baltimore and Ohio stock, or all the Baltimore and Ohio stock owned by the Pennsylvania or any of its subsidiaries. Southern Pacific stock exchanged for Baltimore and Ohio common at par, and for preferred in the proportion of 100 to 80. The remaining Union Pacific holdings of Southern Pacific stock, amounting to \$88,357,600, were to be sold to the general public through the Central Trust Company of New York. The Union Pacific Company offered to all stockholders of the Union Pacific and of

the Oregon Short Line common and preferred, the right to subscribe at the price of 88 plus accrued dividends, for certificates of interest representing Southern Pacific shares transferred to the Central Trust Company to the extent of 27 per cent of their holdings. Holders of these certificates of interest were to have the right prior to January 1, 1916, to present the same and to receive the number of shares of Southern Pacific stock represented by the certificates together with all dividends declared thereon, on condition that the holder make affidavit that he did not own in his own right any shares of the stock of the Union Pacific Railroad, that he was making the application in good faith in his own right, and was not acting for or on behalf of any stockholder of the Union Pacific Company or in accord with any agreement or understanding with any one seeking to control the Southern Pacific Company in the interest of the Union Pacific. Stock remaining in the hands of the Trust Company after January 1, 1916, might be sold by the trustee at the discretion of the court, and the proceeds distributed to lawful holders, that is, to the owners of certificates of interest who had been stockholders of the Union Pacific or Oregon Short Line at the time of subscription and had not divested themselves subsequently of their Union Pacific or Short Line stock.¹

The Attorney-General of the United States was of the opinion that the sale of the Southern Pacific stock to the Pennsylvania Railroad in this way would be a substantial step in the dissolution of the Union Pacific-Southern Pacific merger, and that it would at the same time have the desirable result of divesting the Pennsylvania Railroad Company of the capital stock of an active competi-

¹ *Commercial and Financial Chronicle*, vol. 97, pp. 50-51, July 5, 1913; p. 177, July 19, 1913; pp. 445-446, August 16, 1913; vol. 98, pp. 156-157, January 10, 1914.

tor, the Baltimore and Ohio. He had no objection to the trusteeship and sale of the remaining holdings of the Southern Pacific stock which were not turned over to the Pennsylvania, and said that the provisions respecting it were apparently well designed. He suggested, without insisting, that a proviso should be inserted leaving unobstructed the power of Congress to legislate respecting the stock or transactions in question in order to leave the way open in the event that a future Congress might desire to forbid another railway company to own stock in another non-competitive line. The United States District Court for the District of Utah, consisting of Judges Sanborn, Hook, and Smith, also approved the plan upon June 30, 1913, and the decree was signed in the Federal Court at Salt Lake City the same week.

On August 14, 1913, Kühn, Loeb & Co., managers for the syndicate which was formed to underwrite the sale of the certificates of interest representing \$88,357,600 of Southern Pacific stock, announced that the total subscriptions received up to the closing of the books amounted to \$220,000,000 or more than 2½ times the amount of the stock. Allotments were accordingly made on the basis of 40 per cent of the amount subscribed for.

The final step in the unmerging process was the distribution of Baltimore and Ohio stock in the course of 1914 among the stockholders of the Union Pacific.¹ The distribution was first announced on January 6, 1914. Each common stockholder of record March 2, 1914, was to receive \$12.00 par value of Baltimore and Ohio preferred, \$22.50 par value of Baltimore and Ohio common, and \$3.00 cash, or a total of \$37.50, yielding an average dividend of \$2.01, on the assumption of a six per cent

¹ Commercial and Financial Chronicle, vol. 97, p. 1894.

return on the cash distributed, six per cent on Baltimore and Ohio common, and four per cent on the preferred. The total dividend on these terms would amount to about \$89,000,000, the greater part of which represented a profit which the Union Pacific had secured from its investment in Southern Pacific, Great Northern, and Northern Pacific shares.

Three reasons were given in explanation of the transaction: (1) The dividend would meet the expectations of the common shareholders; (2) The Union Pacific would avoid criticism for holding stock in competing lines, a criticism which might be based on the \$17,857,-100 of New York Central stock which still rested in its treasury; (3) A reduction in the annual dividend rate from ten to eight per cent would be made possible, ten per cent being considered an undesirably high rate in view of the attitude of railroad commissions and state legislatures. Suit was brought by the Equitable Life Assurance Company to compel the Union Pacific to include the preferred stockholders in the distribution, but in vain.¹ The Supreme Court of the State of New York held that the preferred stock was entitled to no other share of the profits than dividends each and every year not exceeding four per cent. An accumulated surplus was regarded as divisible profit. It is expected that the matter will be carried to the Supreme Court of the United States. Protests were received from foreign holders of the Union Pacific convertible bonds, but without effect.²

As a result of the prolonged negotiations thus far described the government has obtained an unusually complete unmerging of a complicated combination. Not only are the Union Pacific and Southern Pacific

¹ New York Journal of Commerce, February 7, March 7, 20 and April 3, 1914.

² Ibid., March 14, 1914.

railroads separated, but none of the 1,265,000 shares on which control depended remains in the hands of stockholders of the controlling company. Some stockholders there are doubtless who own shares in both corporations, and the number may increase in later years, but the possibility of subsequent purchase by individual stockholders exists in the case of any company, and at least is not made more easy by anything in the process of dissolution of the Harriman lines. From the unmerging two things are gained.

In the first place, the financial power of the Harriman system is reduced. Too little emphasis is ordinarily laid on this matter in current discussions. An aggregation of companies operating 17,000 miles of railroad, and earning \$217,000,000 in a single year under the management of one group of men, has power that no government can control. The government can prevent excessive dividends, but it cannot eliminate indirect profits nor can it put a stop to abuses of authority not intended to result in financial gain.

Another advantage is that competition will be promoted. A statement of Mr. William R. Wheeler, Traffic Manager of the San Francisco Chamber of Commerce, describes so clearly the nature and importance of the sort of competition which the Pacific Coast is likely to enjoy, that it deserves citation.

"It is a popular fallacy, I think," said Mr. Wheeler, "that because there is not a rate war . . . following the advent of a new road into a territory, that, therefore, there is no competition. There is competition in the service and that is what we desire. There is also competition in this respect, that if you have two roads who have a voice in the rate question, you stand double the chance of gaining tariff concessions that you do if there is only one road to deal with; if there are three roads,

you stand three times the chance of getting your concessions; in other words, you do not find — are not as apt to find three men of one mind as you are two men of one mind and so on as the number grows. We already have had an example of that here in San Francisco: there was a proposition something more than a year ago to advance rates between San Francisco and Stockton . . . and the fact that it required the consent of three roads instead of two was the only thing that prevented that advance going into effect at that time; we were successful in convincing one of the roads that it was unfair to us to raise those rates and they declined to join in the advance.”¹

It should be added that the Southern Pacific does not share the view that it will be so weakened by the loss of the Central Pacific as to be unable to compete effectively with the Ogden route or with the Panama Canal. On the contrary, it is of the opinion that after the two companies are separated, if they are separated, the Central Pacific will lose business, and the Southern Pacific will gain it. This is not merely because of the advantage of continuous attention and responsibility which the El Paso lines will offer, but also because the southern route has worked in harmony with the route via Ogden in the past, while in the future it will work against it.² Moreover, in the past the Southern Pacific has refrained from lowering transcontinental rates in competition with the water lines because of the effect that this might produce on rates from intermediate points on the Union Pacific or from points east of Omaha in the Mississippi Valley in the business of which the Union Pacific was interested.³ The Southern Pacific operates a boat line from New York to Galveston, and its earnings from inter-

¹ Transcript of Testimony, pp. 408-409, Wm. R. Wheeler.

² Ibid., pp. 174-175, Sproule.

³ Ibid., pp. 147-148, Sproule.

mediate points are unimportant;¹ so that it is already considering the advisability of more vigorous efforts to tempt traffic from water routes to rail.

The Pacific Coast seems at first sight to have scored a distinct triumph, in that the Central Pacific and the Southern Pacific remain together as conditions are to-day. But this circumstance is likely to be only temporary. Attorney-General McReynolds shares fully the opinion of his predecessor, Mr. Wickersham, that the continued union of the two roads is a violation of the Sherman law, and on February 11, 1914, he filed a suit at Salt Lake City attacking the combination as one in restraint of trade.² There is every reason to believe that he will win his case. Yet even if he does, California at least may come out better than she expects and gain distinct advantages from dissolution in the long run.

In raising opposition to the separation of the Central Pacific and the Southern Pacific, shippers in California so far have forgotten that the Union Pacific will route more or less business via Portland over the Oregon Short Line so long as the Central Pacific and the Southern Pacific remain under common control. Business destined to California may never move this way but export business to the Orient very likely will. The distance is greater, but the grades are not more formidable, and the large future possibilities of the Oriental market make this consideration of importance to San Francisco. Even if the Central Pacific becomes independent, there will doubtless still be some tendency to send freight to the north, altho the Central Pacific as an independent road, relying for its existence on through business from California to the east, will be far more likely to fight for its

¹ Transcript of Testimony, pp. 175-176, Sproule.

² Railway Record, February 14, 1914.

share of the traffic by Ogden, than it will be when controlled by a system whose main interest lies in procuring a long haul further south. Under Union Pacific control, the Union Pacific will have every interest in promoting the trade of San Francisco.

What California and San Francisco both need for their own selfish interests is a direct connection with the east worked to its full capacity, and this they now seem likely to secure. Surely such a consideration may compensate shippers for some difficulties in respect to local business — difficulties which will probably prove less important than the exaggerated statements current on the Pacific Coast lead one to suppose.

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REVIEW

BOOKS ON BUSINESS CYCLES: MITCHELL, AFTALION, BILGRAM

IN 1912 Professor Taussig could state with justice that, "notwithstanding the abundant literature on crises, there is no good book on the underlying questions of principle."¹ During the past year three books dealing with such questions have appeared: Mitchell's *Business Cycles*, Aftalion's *Les crises périodiques de surproduction*, and Bilgram and Levy's *The Cause of Business Depressions*.² All three develop theories of business cycles. The first two are based upon extensive studies of the statistics of the phenomena of cycles and upon the literature of the subject; the last is a deductive study in which statistics and present day writers are alike ignored.

Of the works named, indeed of all studies on crises, Mitchell's *Business Cycles* takes the leading position. It is comprehensive; it contains the most complete and careful statistical study of the phenomena connected with business cycles; it is well-written; pregnant, forceful expressions abound; it is a scientific study by an author who, obviously, is not seeking to establish a pet theory. *Business Cycles* is not notable for the striking originality of the facts estab-

¹ *Principles of Economics*, vol. i, p. 446.

² *Business Cycles*, By Wesley Clair Mitchell. (Berkeley: University of California Press, 1913. Pp. xviii, 610. Charts 1-77. \$5.)

Les crises périodiques de surproduction. Tome I: *Les variations périodiques des prix et des revenus; Les théories dominantes*. Tome II: *Les mouvements périodiques, de la production; Essai d'une théorie*. By Albert Aftalion. (Paris: Rivère et Cie, 1913. Vol. i, pp. xii, 324. Vol. ii, pp. 418, 16 fr.)

The Cause of Business Depressions. By Hugo Bilgram in collaboration with Louis Edward Levy. (Philadelphia and London: J. B. Lippincott Co., 1914. Pp. xvii, 531. Diagrams 1-26. \$2.50.)

lished or the theory of crises set forth, but for the marshalling of the data, and the clear expositions and the combination of the ideas of various writers into a self-consistent theory of business cycles. It is evident that the author has been strongly influenced by Veblen. But he has utilized the ideas or suggestions of many authors. As he points out (p. 580) he utilizes Spiethoff's theory of the ill-balanced production of industrial equipment and complementary goods, Hull's theory that the high cost of construction work in periods of intense prosperity causes a severe decline in investment demand and hence a crisis, Lescure's theory of variations in prospective profits combined with Veblen's theory of the discrepancy between prospective profits and current capitalization, Sombart's theory that crises occur because the supply of organic goods does not keep pace with the supply of minerals and the like, Carver's theory of the dissimilar price fluctuations of producers' and consumers' goods, Fisher's theory of the lagging adjustment of interest rates to the fluctuations of the price level and Johannsen's theory of "impaired savings."

Mitchell correctly describes the study which he has made as follows: "This analysis rests primarily upon an elaborate statistical enquiry into the phenomena of recent cycles in the United States, England, France, and Germany. The statistical line of attack was chosen because the problem is essentially quantitative in character, involving as it does the relative importance of diverse forces which are themselves the net resultants of innumerable business decisions. The selection of statistical data, the methods of presentation, and the coordination of the results were determined in large part by ideas borrowed from theoretical writers or from financial journals. But all the tables of figures and all the borrowed ideas were fitted into a framework provided by a study of the economic organization of today, which showed that the industrial process of making and the commercial process of distributing goods are thoroly subordinate to the business process of making money" (p. 570). The theory of business cycles thus developed may appropriately be called "the

profit theory of business cycles." The detailed data upon which the author's conclusions are based are for the period 1890-1911. This is a virtue rather than a defect of the study for two reasons: reliable statistics are not available for earlier years and the recent period is one of commercial homogeneity.

Mitchell's account, in barest outline, of the business cycle is as follows:

Starting with a revival of activity he finds that depression has left this legacy: "a level of prices low in comparison with the prices of prosperity, drastic reduction in the costs of doing business, narrow margins of profit, liberal bank reserves, a conservative policy in capitalizing business enterprises and in granting credits, moderate stocks of goods, and cautious buying."

"For reasons which will appear in the sequel, such conditions are accompanied by an expansion in the physical volume of trade. Tho slow at first, this expansion is cumulative. . . . All this while, the revival of activity is instilling a feeling of optimism among business men, and this feeling both justifies itself and heightens the forces which engendered it by making every one readier to buy with freedom" (p. 571).

An irregular rise of prices begins. "Retail prices lag behind wholesale, the prices of staple consumers' goods behind the prices of staple producers' goods, and the prices of finished products behind the prices of their raw materials. Among raw materials, the prices of mineral products reflect the changed business conditions more regularly than do the prices of raw animal, farm, or forest products. Wages rise often more promptly, but always in less degree than wholesale prices; discount rates rise sometimes more rapidly; interest rates on long loans always move sluggishly in the early stages of revival, while the prices of stocks — particularly of common stocks — both precede and exceed commodity prices on the rise" (p. 572). The causes of the differences are to be found in differences in organization of markets, technical conditions of the market, and in the adjustment of selling to buying prices. These price fluctuations usually result in larger profits.

The revival of prosperity grows into intense prosperity. The decrease in supplementary costs ends as the plants reach full capacity; prime costs rise rapidly; antiquated plants and equipment are utilized; the efficiency of labor declines "because overtime brings weariness, because of the employment of undesirables, and because crews cannot be driven at top speed when jobs are more numerous than men to fill them"; finally, factory organization becomes less efficient (p. 573).

Meanwhile there is stress in the money market and "scarcity of capital." This causes the relinquishment of projected ventures. Contracts for the future delivery of industrial equipment become less numerous. Prices do not rise evenly or indefinitely. Certain prices are fixed by law, others by custom, still others are primarily dependent upon harvests, inventions and improvements, the rates of interest and wages. A minority of business men face a decline in profits; their credits are based upon "the capitalized value of present and prospective profits"; profits waver, loans are made more expensive or renewal refused, and liquidation begins (p. 575).

Wide-spread and forced financial readjustment, with its consequences, ends prosperity and inaugurates an economic crisis. If the banking organization and practice are defective the crisis may degenerate into a panic.

"There follows a period during which depression spreads over the whole field of business and grows more severe. Consumers' demand declines in consequence of wholesale discharges of wage-earners, the gradual exhaustion of past savings, and the reduction of other classes of family incomes. With consumers' demand falls the business demand for raw materials, current supplies, and equipment used in making consumers' goods. Construction work is discontinued, few new enterprises are undertaken, the volume of trade contracts and an irregular fall of prices occurs. . . . Wholesale prices fall faster than retail, the prices of producers' goods faster than those of consumers' goods, and the prices of raw material faster than those of manufactured products. The prices of

raw mineral products follow a more regular course than those of raw forest, farm or animal products. As compared with general index numbers of commodity prices at wholesale, index number of wages and interest on long time loans decline in less degree, while index numbers of discount rates and of stocks decline in greater degree. The only important group of prices to rise in the face of depression is that of high grade bonds" (p. 578).

Profits decrease. "The prime costs of doing business are reduced by the rapid fall in the prices of raw materials and of bank loans, by the marked increase in the efficiency of labor which comes when employment is scarce and men are anxious to hold their jobs, and by closer economy on the part of managers. Supplementary costs also are reduced by reorganizing enterprises which have actually become or which threaten to become insolvent, by the sale of other enterprises at low figures, by reduction of rentals and refunding of loans, by charging off bad debts and writing down depreciated properties, and by admitting that a recapitalization of business enterprises — corresponding to the lower prices of stocks — has been effected on the basis of lower profits" (p. 578).

After two or three years of depression the demand for goods begins to expand, a larger population must be fed and clothed, new tastes appear, the demand for industrial equipment revives, and timidity on the part of investors diminishes. The depression gives way to a revival of prosperity and the business cycle is complete.

Mitchell's account of business cycles is not only plausible but convincing. So are other accounts, in varying degrees. But Mitchell recognizes the important influence of numerous elements; he has fitted those elements into a single framework; and he has tested his theories by painstaking statistical investigations which, in the main, have undoubtedly led him to correct conclusions.

Tho not many of the author's conclusions are open to question, some there are. For instance, he says, "The marriage

rate . . . does vary with the condition of business. . . . But since these variations in the marriage rate are not followed by corresponding variations in the birth rate, they possess little significance for the growth of population" (p. 225). G. Udny Yule's elaborate study led him to the conclusion that the birth rate not only oscillates with the marriage rate of two years previous but that there is a direct dependence of the birth rate upon economic factors.¹ It is not clear that the mere psychological effect of numerous opportunities for employment during prosperity appreciably decreases productivity. These are, however, minor points. Major points in Mitchell's theory are size and tendency of profits during the cycle and the sequence of the price movements among the various classes of goods, — consumers', producers', raw, or manufactured.

As to profits, the crux of Mitchell's theory of crisis, he says, "statistics both trustworthy and significant concerning profits are scarce" (p. 422). The data available, *i. e.*, the earnings of American railways and national banks, and German corporations, appear to substantiate the author's conclusions. However, it is not demonstrated that profits are decreasing when prices reach their maxima. More exact and extensive evidence is needed on this point. Aftalion maintains:² first, that profits alternately increase and decrease during recurrent prosperity and depression with considerable regularity; second, that the maxima and minima appear at approximately the same dates as those of prices, but in certain cases "the maxima are reached most often after the maxima of prices [and] the minima, on the contrary, occur frequently before the minima of prices," and third, that profits fluctuate much more violently than do prices. Mitchell (p. 446) and Aftalion³ agree that there is no apparent uniform relation between failures and crises in the leading commercial nations.

Concerning the price movements of various classes of

¹ "The changes in the marriage and birth rates in England and Wales during the past half century: with an inquiry as to their probable causes." G. U. Yule, in *Jour. Roy. Stat. Soc.*, March, 1906.

² *Op. cit.*, vol. i, pp. 184-185.

³ *Idem.*, p. 202.

goods Aftalion's conclusions agree, in the main, with those of Mitchell. Aftalion has made a study of the prices of the raw materials and the finished products of various important industries. His conclusions may be summarized as follows:¹

1. A study of individual price variations confirms the conclusions indicated by general index numbers of prices.

2. The opinion which attributes the direction of economic cycles to industries producing fixed capital and refuses any notable contribution by industries producing consumption goods does not receive support.

3. Certain industries, — metal, cotton, woolen and glass manufacturing, the building trades and transportation, — participate in business cycles to a marked degree; others, such as silk, linen, clothing and furniture manufacturing, and agricultural production, do not participate markedly.

4. It may be that industries producing capital goods always participate in crises and those producing consumption goods also participate, but not with the same regularity.

5. Prices of raw materials, with some exceptions, fluctuate more regularly and more intensely than prices of manufactured articles.

6. Prices of metals fluctuate more violently and regularly than those of other goods.

All the evidence indicates, then, that during intense prosperity the reaction both in prices and profits begins in those industries producing raw materials (other than agricultural products) and producers' goods, extending to wholesale and then to retail prices. "Retail trade, in fact," says Mitchell, "seems not to be curtailed seriously outside of the largest cities until a panic has closed many industrial enterprises, put others on short time, and led to the wide-spread discharge of wage earners. Then, of course, the shopkeeper sees his sales fall off, as the merchant and manufacturer had several weeks earlier (p. 538). . . . Now if the chief stress arose from the lagging of consumers' demand behind the supply of consumers' goods, one would expect the opposite result to be registered by the index numbers" (p. 502). We must

¹ *Idem.*, pp. 105-110.

agree with Mitchell that "until the under-consumption theories have been shored up by more convincing evidence than has yet been adduced in their favor, the view must prevail that the difficulty of warding off encroachments upon profits by advancing costs comes to a head earlier in other lines of business than in those concerned with consumers' goods" (p. 502). Aftalion, as will appear in detail later,¹ also opposes under-consumption theories,² but by reasoning based upon marginal utility and the roundabout process of capitalistic production. He holds that low prices are maintained in a depression by over-production of consumption goods, this over-production being reflected back along the line of capitalistic production. The strong point of Mitchell's theory is that it is in accord with the sequence of the change in prices, — production goods falling and rising before consumption goods; whereas Aftalion's theory, it would appear, calls for the opposite sequence of prices to that so clearly shown by Mitchell. The latter's theory is dependent upon profits; disturbance in industry and prices follow the fluctuations of profits. However, it is admitted that the data concerning the action of profits are meager. Aftalion's theory is dependent upon production; over-production or under-production being revealed first in the prices of consumption goods, but he ignores the evidence that consumption goods are last, rather than first, to change in price. In his summary of "the details of the movements of prices for various categories of merchandise"³ he describes the relative intensity and regularity of variations and does not refer to the time element.

We come, then, to the detailed consideration of the theory and facts presented in Aftalion's *Les Crises périodiques de surproduction*. The author's theory of business cycles can best be given by translating part of his own résumé:

¹ See p. 805.

² It is peculiar that Mitchell refers to Aftalion's over-production theory under the caption "under-consumption," pp. 499-500.

³ *Op. cit.*, vol. II, pp. 184, 197.

I have explained the rhythm of prices principally by that of production and the rhythm of production by that of price. In each of these two explanations I have made use of the same two leading ideas. On the one hand, as it is natural in a matter where the price variations hold such an important place, an application of the ordinary laws of value and price was evident in the phenomena observed. On the other hand, much light has been thrown upon the subject by the consideration of certain characteristics of the capitalistic technique of production: the long time required for the construction of fixed capital and the necessary maintenance in activity of a very costly equipment.

What, in fact, is the explanation of the rhythm of price? We have had recourse to the laws which determine that which is called the market price of merchandise. At any moment this price depends upon supply and demand or, more exactly, the curves of supply and demand. As demand, by itself, does not appear to have any reason for alternately increasing and decreasing, and as production, on the contrary, does present fluctuations of that nature, it is the rhythmic variations of supply that I have held responsible for the cyclical oscillations of prices.

Crises have been supposed to result more particularly from over-production, from a plethora of merchandise. The possibility of *general over-production* has been insisted upon. The sense has been defined. The *generality* of over-production does not indicate its universality. It has also been shown that production need not be excessive with reference to the totality of our needs; but it may be too considerable for the satisfaction of the needs of the same intensity as those previously satisfied, too considerable, consequently, not to lower the marginal utility and the prices of goods. Still that lowering of prices does not indicate in itself an over-production, because the cost may not also lower retroactively in like proportions. Permanent over-production is rationally impossible.

But the cyclical movements of production do not account for those of price except under the conditions created by the technique of capitalistic production. We have seen also that during prosperity, because of the time necessary for the construction of equipment, production as a whole may increase without a weakening of prices. The increase is mainly in the manufacture of industrial equipment. Until the goods be finished and enter into service, the need for fixed capital and, consequently, the need for consumption goods or direct services remains unsatisfied. The under-production of these last named goods or services persists in spite of the great productive effort which only prepares a future abundance. The increase of the prices of these goods supports the scaffolding of high prices. When the former prices are depressed the construction of

fixed capital greatly slackens. But the efficient equipment bequeathed by the preceding period which must be kept employed because of its high cost, the large quantities of fixed capital placed in process of manufacture during prosperity and finished only in the first years of the depression make the over-production of consumption goods lasting. Therefore the general slump in prices is maintained.

The rebound of these phenomena is evident in a multitude of manifestations of economic and social life. The law regulating the prices of the services of the agents of production is also of moment. The rhythm of prices is followed by a rhythm of wages, interest, and profits. In its turn the rhythm of income or well-being influences the movements of population, marriages, births, pauperism, criminality, the payment of taxes, and a host of other things. . . .

What is the explanation of the rhythm of production?

We must still appeal to the laws of value and price. But it is a question now not only of *market* price but of *normal* price. In spite of the diversity of scientific conceptions concerning value it is agreed that there is a tendency of market price to gravitate toward normal price due to the action of market price on production. Increase of price above the normal price stimulates production which ends by depressing the price. The decrease of the market price favors a cessation of production which ends by beginning anew the same sequence.

But here the law of value is not sufficient to account for the considerable rhythm of production, the regular alternation of several years of over-production and under-production, or of over and under-capitalization, without bringing capitalistic production into the explanation. Without doubt the direct factor in the successive excesses in opposite directions consists in the faulty foresight of enterprisers and others. But it is the capitalistic technique which renders this faulty foresight inevitable.

During prosperity the increase of price makes the development of production possible. But this development does not take place until the previous construction of the necessary equipment. As this construction takes a long time, there is an insufficient satisfaction of wants, and a persistence of high prices during all this time, induced by new orders, new manufactures of industrial equipment, and above all by its manufacture in excessive quantities, and by *over-capitalization*. This over-capitalization finally ends by becoming apparent in proportion as the fraction completed bears to the new equipment. Over-production is then revealed. Prices drop. The crisis breaks.

During the depression which follows, the drop in prices brings about a slackening of production. But because of capitalistic pro-

duction that which decreases immediately is only the manufacture of new fixed capital. The excess of the finished equipment, increased by new deliveries, the over-abundance of consumption goods, due to a costly equipment that must be operated, prolongs the downward trend of prices. Just so long as this slump in prices continues there is no inducement to extend the existing equipment. *Under-capitalization*, then, takes place, which prepares for the return of under-production and prosperity. . . .

It is the modern time-using capitalistic production, the permanence of fixed capital, and the inability of men to correctly estimate the future that cause crises. If we should produce directly and immediately the consumption-goods required, cycles and periodic crises would be unknown. In such case a lack of merchandise would be a "long time" lack, another question.

The chief objection to Aftalion's theory has already been stated — inconsistency with the established sequence of price changes of producers' and consumers' goods. Possibly this inconsistency can be explained; but if so, the explanation has not been given. That the roundabout process of production is of primary importance, and that price influences production, and production, in its turn, influences price, as Aftalion explains, both being factors in business cycles, — all this few will deny. But it remains true that Aftalion's solution is speculative and, at one point at least, does not agree with known facts.

Valuable data and acute analyses are to be found in *Les crises périodiques de surproduction*. The author begins his work with a study of prices. He finds marked periodicity; that the prices of foodstuffs participate slightly in this periodicity; that the contention that minerals fall first in price is not confirmed; that various industries have distinctive price movements. He discusses the effects of price movement on wages, interest and profits, the more important conclusions being as follows: wages move with prices but lag behind the latter; there is a long time upward trend of wages; physical productivity, at least in coal and iron mines and steel manufacture, increases during depression; high prices during prosperity, however, more than compensate employers for the decrease in physical productivity; oscilla-

tions in wages appear to be in the same direction as the oscillations in productivity measured in value; on an average real wages increase 20 % in prosperity and decrease 7 % in depression; fluctuations of the rate of interest are similar but not as violent as those of prices; prices, then profits, and finally interest rates, increase during prosperity; increasing prices tend to make people value present goods higher in terms of future goods; in prosperity, with a larger number of workers, the marginal physical productivity of capital increases; profits move with prices but fluctuate more violently; during depression there is a decrease of real cost and with the return of prosperity a slackening, at least, of its diminution; industrial concentration increases during depression by the elimination of marginal establishments; competition and the "law of least effort" show their effects most strongly during depression and the law of diminishing returns during prosperity; production increases during prosperity but it is not certain that it actually decreases during depression, both capital and production having a long time upward trend.

The second volume of Aftalion's work is an extensive account of the periodic movement of production, the primary cause of business cycles, and of the influences of the secondary causes, such as variations in demand because of variations in wages, interest rate, and profit, and the effects of speculation and saving. Because of the rôle that profits play in Mitchell's theory it is interesting to note what Aftalion has to say concerning them:

" Besides the desire to benefit from the high price of goods manufactured by fixed capital, savings, the gross profits from industrial enterprises constitute, then, leading causes of the increase of demand and prices of capital goods during prosperity and of the decrease during depression. We have here, therefore, factors which generalize and accentuate the alternating price movements. But it is necessary to repeat that they are secondary factors. The movements of income and savings which act thus upon prices are merely the consequences of price movements which, in

turn, are due to variations in the supply of merchandise" (vol. II, p. 245).

Aftalion holds that the rate of discount and bank reserves move in a contrary direction during business cycles to that required by the quantity theory of money. He accepts Irving Fisher's equation of exchange but not his account of the action and interaction of the elements therein appearing. It would seem, however, that he misconceives Fisher's meaning. He calls prosperity "a period of over-work during which consumption increases less rapidly than the tasks before us" (vol. II, p. 376).

Mitchell and Aftalion hold that money and banking systems do not cause crises, but that imperfect systems may convert a business crisis into a financial panic. Messrs. Bilgram and Levy, the authors of *The Cause of Business Depressions*, hold that the legal limitation placed upon banks, especially the reserve requirements, the restrictions upon the issue of bank notes, and the obligation to redeem such notes in primary money upon demand, constitute the cause of crises, panics and depressions.

Mr. Bilgram's "strictly deductive line of investigation," as he calls it, leads him to the conclusions that economists are teaching "the misconceptions of economic history which have come down to us from the past" (p. 457), that "the recurring economic paroxysms, known as financial crises, which are followed by periods of industrial depression, are the inevitable outcome of the arbitrary limitation of the volume of currency," and that "this same cause gives rise to the most grievous of the many forms of social and economic injustice that are so loudly crying for redress throughout the modern world" (p. 511).

The argument runs thus: "The volume theory of the value of money" is inconsistent with facts and untenable. "Money does not owe its value to the demand for a medium of exchange, nor to any law authorizing the issue of such medium, but exclusively to the value of that of which the money consists, be it the standard commodity gold, or credit expressed

in terms of that commodity" (p. 155). "The time-honored notion that money is paid to the lender of money for the use of 'capital' is groundless" (p. 280). "Investigation discloses the fact that what the borrower is after is *money* and that the interest which he pays to the lender of money is paid for the use of money and not for the use of capital" (p. 277). "It follows that if the total demand for money is not supplied, competition will tend to put a premium on its use. Interest is accordingly paid on money because of its inadequacy to meet the demand of those who need it for the exchange of their products or services, and, as we shall see later, this competition raises the rate of interest as high as the market will bear, indeed, so high as to exert a destructive effect upon the market" (p. 317). In a business depression "*the general over-supply of things and services offered for exchange can be accounted for only by an equal under-supply of the medium of exchange. . . . The arbitrary control of the volume of currency, accordingly, is not only the cause of the predatory power of wealth, but also the cause of industrial stagnation*" (p. 363). The remedy, therefore, is for the government to advance notes to banks freely on the security of their assets, including loans on real estate security, and national, state and municipal bonds; such notes to be redeemable in gold by the government, but not by the banks; "the gold for this latter fund could be obtained by requiring every bank applying for currency to furnish not only the prescribed amount of securities, but also gold to the amount of such percentage of the currency issued as experience indicated as sufficient" (p. 409). The Federal Reserve Act "is a step in the right direction" but the process of issuing the currency is so costly (because of the reserves required, the interest rate that banks rediscounting will be obliged to pay, and the machinery for getting the notes into circulation) that "the intention of the law, that of rendering the business world independent of financial disturbances, can at best be but partially realized" (p. 518).

For a thoro criticism of *The Cause of Business Depressions* one would need to cover the entire field of economics,

an uncalled for proceeding. It is uncalled for, because Mr. Bilgram does not adequately support his economic heresies with statistical and other data; because the crises in England, France, Germany and Canada are not analyzed with reference to their currency systems; and because he does not recognize the contributions made by contemporary economists. For example, he discusses money theory without reference to Irving Fisher or Laughlin, the wage fund theory without reference to Taussig, and marginal productivity without reference to Clark. The authors most frequently quoted by Mr. Bilgram are Adam Smith, Ricardo, Mill, Marx, Henry George, Simon Newcomb and Böhm-Bawerk. In the main, he disagrees with their systems, except that he endorses the Ricardian theory of rent and labor theory of value, and the marginal utility concept. He holds that "rent . . . equals the advantages which the land employed affords over marginal land, and therefore depends on relative fertility and advantages of location" (p. 239); that "pure interest" is clearly traceable to a *monopoly upheld by law*" (p. 350), that is, to "arbitrary restrictions on the natural expansion of the means of exchange" (p. 512); that labor must take "what is left after rent and interest is paid" (p. 360), and that "the apparent power of capital to grow is really a power to acquire an unearned share of the results of labor performed by those who work" (p. 458).

In conclusion, the reviewer commends especially Mitchell's *Business Cycles* because of its excellent statistical discussions, numerous diagrams and clear presentation. This work offers good suggestions for bettering barometers for the forecasting of business conditions. As Mitchell says, "experience supports the current belief that occasional crises are inevitable" (p. 550) . . . but, nevertheless, "what has been already accomplished in these directions toward controlling our business machinery may well be the earnest of greater achievements in the future" (p. 586). The Federal Reserve Act is designed to prevent the recurrence of financial panics in this country. The proposals to use governmental activities "as

a balance wheel to steady the business mechanism" now being tried on French railways¹ and advocated by the Webbs in England,² aim to diminish the severity of depressions. These proposals demand thoro consideration by economists and governmental officials everywhere.

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¹ See *Rapports sur les indices des crises économiques et sur les mesures financières propres à atténuer les chômages résultant de ces crises*, a government publication issued in 1911 by the French Minister of Labor.

² *The Prevention of Destitution*. (London, 1912.) Cf. Mitchell's *Business Cycles*, p. 587.

NOTES AND MEMORANDA

"UNEARNED INCREMENTS," LAND TAXES, AND THE BUILDING TRADE

THE point has been made by opponents of the single tax that the "unearned increment" in land values is an incentive to building: that buildings which are expected to depreciate through obsolescence are often put on land that is rising in value in the expectation that the appreciation of the land will offset the depreciation in the building; and that consequently a tax which destroys the increment in land values would check building operations, instead of encouraging them as the single taxers contend. The argument has been buttressed by reference to the principle that earnings tend to be equalized in different lines of investment, so that if the building trade offered the normal return, and, in addition, an increment in land value, there would be a tendency, under competitive conditions, for capital to crowd into the building trade to such an extent as to reduce this joint gain to a point not exceeding the normal return in other lines. The reduction is expected to come about, in this case, by a depreciation in the capital invested in building.

The writer does not favor the single tax. He is, however, convinced that this particular argument against the single tax is unsound. One rather obvious difficulty presents itself: the case is possible only where the same man owns both land and building. If, as is the case to a large extent in Baltimore, and to a considerable extent in other cities, buildings are put up on leased land, the builder has no such inducement, because he will not himself benefit by the rising land value. The fact that buildings on leased land, and buildings owned

by the landlord compete in the same market raises a strong *a priori* presumption against the doctrine under discussion. The man building on leased land would be at a hopeless disadvantage in such a competition. A closer analysis will show that the increment in land values performs no such function as that assigned.

That buildings may be erected where rapid depreciation is to be expected is not denied. That this may, and frequently does, occur on land where the increment in land value is rapid is not denied. Land whose value is increasing rapidly may very well be land of which the best possible uses are changing rapidly, and consequently land on which buildings may be expected to depreciate rapidly through obsolescence. But it is denied that the amount of the increment in land value has any connection whatever with the amount of depreciation in building which is voluntarily suffered.

The matter is best put in an illustration. Assume a man who has a piece of land worth \$50,000, and free capital of \$30,000. Assume an annual increment to the land value of \$2000. The owner has two options: he may leave the land idle and invest his \$30,000 at, say, six per cent in industry, in which case his return is \$3800 per year (counting the increment); or, he may apply his \$30,000 to the land by building upon it, and so unlock the potentialities of the land, causing it to yield, say, four per cent, or \$2000, making his total yearly return \$5800 (again counting the increment). It is clear that in this latter case the owner gains if the depreciation of the building is anything short of \$2000 per year. But the \$2000 which offsets the depreciation is not the increment to the land value, but the extra \$2000 that comes from putting the land to use. Varying the size of the increment leaves the situation unchanged. Assume an increment of \$12,000 per year: he can still tolerate only \$2000 per year depreciation. By using his first option, he would in that case have an annual gain of \$13,800; by using his second option, an annual gain of only \$15,800, still only \$2000 to spare. Assume no increment at all: he has still the same \$2000 margin for depreciation. The increment is wholly irrelevant. The significant

factor is the possible addition to his income from releasing the earning power of the land.

A different mode of reckoning would be compelled if the builder were building on leased land. In that case, he would offer as the annual rent of the land only that part of the \$2000 rent attributed to the land in our figures above, which is left after amortizing the depreciation on the building. Properly speaking, land in the situation assumed would really contribute only that residuum to the joint product.

It is, of course, possible that an owner of a building who also owned the appreciating land on which it is built would not feel called upon to set aside out of gross income a sum to amortize the depreciation of his building; that he might spend it all, relying on the increment in land value to serve as security for the capital later to be needed for a new building. But in that case the increment would be off-setting, not the depreciation, but the owner's expenditure of his capital for consumption purposes. The increment would then make possible, not more building, but extravagance. But that the increment, which is a constant factor whether the land is built upon or not, should have any influence on a decision to build or not to build, is, on the face of it, impossible.

It should be noted, also, that an extra tax on land for the purpose of encouraging building might be similarly barren of results. If the tax is a constant factor, whether the land is built upon or not, in what way could it affect the decision to build? A special tax on unoccupied land alone would cause more building, but factors which are constant regardless of the decision do not count among the pros and cons.¹ It should be added, however, that since buildings are, under our general property tax, in fact more heavily taxed than most other forms of capital, an application of the single tax would relieve buildings of a disproportionate burden, and so somewhat stimulate building at the expense of other forms of enterprise.

The principle mentioned in the first paragraph, that earnings in all lines of investment tend to be equalized, so that a

¹ My attention was called to this other side of the matter by one of my students, Mr. R. S. Merriam, A.B., Harvard, 1914.

gain through increments in land values tends to be offset elsewhere, has been recognized in the foregoing argument. Our numerical illustration assumed a six per cent return for the \$30,000 free capital, but allowed a return of only four per cent on the \$50,000 in appreciating land. The writer believes that, in general, appreciating land does yield a low percentage on its capitalization, and that this fact adequately represents the working of the principle referred to, when account is taken of the speculative character of the "unearned increment."

These observations are designed merely to narrow the issue between the single taxers and their opponents, by blunting some of the weapons on both sides. They cover only a small part of the points in controversy.

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ABRAHAM LINCOLN ON THE TARIFF: A MYTH

THOSE who have followed the campaign literature on the tariff during recent years will have become familiar with a phrase attributed to Abraham Lincoln. The following version is taken from Curtiss's *Industrial Development of Nations* (1912), a pretentious three-volume publication, in which are collected indiscriminately all sorts of protectionist arguments. Under a portrait of Lincoln this is printed: —

"I do not know much about the tariff, but I know this much, when we buy manufactured goods abroad, we get the goods and the foreigner gets the money. When we buy the manufactured goods at home, we get both the goods and the money."¹

¹ Vol. iii, p. 6. Elsewhere in the book the version is in somewhat different form: "Abraham Lincoln said: 'When an American paid \$20 for steel rails to an English manufacturer, America had the steel and England had the \$20. But when he paid \$20 for the steel to an American manufacturer, America had both the steel and the \$20.'" Ibid., vol. ii, p. 471. — This obviously is an anachronism, since such a thing as a steel rail was unknown in Lincoln's time.

No reference is given by Curtiss to Lincoln's writings; nor is such a reference given in any place where I have found the phrase quoted. A careful examination of the various editions of Lincoln's published works brings to light nothing that remotely resembles it. There is nothing in either of the two editions of his writings put together by Nicolay and Hay, nor is there anything in the so called Federal Edition. Nicolay and Hay's *Life* yields nothing of the sort, nor any of the biographies. So with Lincoln's Speeches in Congress and his Messages to Congress. There is no lack, to be sure, of references to the tariff by Lincoln. He began his political career as a Whig, and remained a protectionist; tho during the decade preceding the war his political insight led him to put it aside as an issue on which to appeal to the people. Those who are interested in the history of the tariff controversy may find it worth while to turn to some notes of his, written in 1846-67, containing a sketch of an address on the tariff. Here the main thought is that labor given to transporting a commodity from foreign countries is wasted, if the commodity can be produced within the country with as little labor as elsewhere.¹ This may be an echo of some of Carey's well-known utterances; and it could be made the text for some explanation of the principle of comparative cost. A passage of a similar sort is in an address made at Pittsburg in 1861, indicating that Lincoln had kept this particular turn of reasoning in mind. But there is not the slightest suggestion of the much-quoted phrase.

Now, what is the history of the phrase?

The very first mention which we have found² is in 1894, in the *American Economist*, a weekly protectionist sheet published in New York. In that periodical for June 29, 1894, the following is given as having been copied from the *Independent* of Howard, Illinois, of June 9, 1894:—

"Lincoln's first speech on the tariff question was short and to the point. He said he did not pretend to be learned in political economy,

¹ Lincoln's Complete Works (2 vol. edition), vol. i, p. 90. Cf. p. 679 for the Pittsburg address.

² I say "we," because in the endeavor to trace the phrase to its origin I have had invaluable assistance from Mr. D. M. Matteson, well-known for his thoroughness in research on problems of American history.

but he thought that he knew enough to know that 'when an American paid twenty dollars for steel to an English manufacturer, America had the steel and England had the twenty dollars. But when he paid twenty dollars for the steel to an American manufacturer, America had both the steel and the twenty dollars.'

In a later issue (Oct. 26) of the *American Economist* of that same year, it is stated that another newspaper, the *Peoria Journal*, protested that the "goods and money" speech was made at Kewanee; while still another newspaper, the *Chicago Record*, pointed out that this version was not at all in accord with Herndon's report of Lincoln's first speech.¹

That the phrase was not current before 1894, at least in its attribution to Lincoln, and probably was not known at all, is indicated by its absence from those collections of opinions of "the fathers" which form a familiar part of the protectionist stock in trade. It is not to be found in Stebbins' *American Protectionist's Manual* (1883); tho Lincoln is there mentioned as being "in favor of a high protective tariff." Nor is it in a tract published in 1892 by the American Iron & Steel Association, under the title *The Testimony of the Fathers*. The tract contains a choice collection of excerpts from the utterances of Hamilton, Jefferson, Calhoun, Webster, Clay, even Fillmore and Buchanan; but not a word from Lincoln. Nor is it used with any frequency for some years after its first appearance in 1894. But after 1900 it turns up repeatedly in the file of the *American Economist*: in 1901, in 1905, twice in 1906, again in 1908.² After the very first appearance, the commodity mentioned seems to be invariably rails, — sometimes iron rails, sometimes steel rails. Usually, a newspaper

¹ Mr. Matteson reports that Howard appeared on the maps until about 1902; since then a village at the same spot, — a mere junction-point, apparently, — is named "Lotus" on the map. It is in the northwest corner of Champaign County, forty miles from Lincoln's early home at New Salem. Mr. Matteson adds: "I am forced to the conclusion that the Howard Independent is a myth, or at least a misprint. The postmaster at Lotus writes me that no paper has ever been printed there; and there is no other town in Illinois, so far as I have been able to discover, with which the name Howard is associated. No Howard Independent was published elsewhere in the United States, according to the newspaper directories of 1891, 1894-95, and the last issue."

² May 10, 1901; June 9, 1905; Feb. 16 and Dec. 21, 1906; Dec. 18, 1908; Dec. 23, 1910. The set of the *American Economist* in the Harvard Library is not complete; there may be other references in the missing numbers.

is quoted as having used the phrase or reported its use. Thus, in 1905, the following is quoted from the *Worcester Telegram*: —

“ Senator Scott of West Virginia is scored in some places for quoting President Lincoln in support of the policy of standing pat on the Tariff issue, and some of the critics appear to doubt that Lincoln ever used the words attributed to him. The words at least are good enough to have been used by the war President. Senator Scott says: ‘ President Lincoln once remarked that if we gave \$30 a ton for iron rails made in this country we would have both the rails and the money, but if we bought them in England the rails only would be ours, while the Britishers would get the cash.’ . . . Neither does it matter . . . whether the rails . . . are iron of the days of Lincoln or the steel of today.”

In 1908, again, the then Secretary of the Treasury, Leslie M. Shaw, is quoted in the *Economist* as having used the quotation in a Boston speech.

The first appearance for express campaign use appears to be in 1904. The phrase is to be found in the Republican Campaign Book of that year. In earlier campaign books, for 1892, 1896, 1900, it does not appear; altho in that of 1896 Lincoln is cited as an advocate of protection. Evidently the phrase was not widely known during these earlier years. In the Campaign Book of 1904, there is an extended quotation from Lincoln’s tariff notes of 1846–47 (referred to a moment ago) and then at the close we find: —

“ On another occasion Mr. Lincoln *is quoted*¹ as saying: ‘ I am not posted on the tariff, but I know that if I give my wife twenty dollars to buy a cloak and she buys one made in free-trade England, we have the cloak, but England has the twenty dollars; while if she buys a cloak made in the protected United States, we have the cloak and the twenty dollars.’ ”

Here, it will be observed, “ a cloak ” appears. In a speech by McCleary of Minnesota, in the House of Representatives, April 22, 1904,² “ a dress ” and “ my wife ” appear, with the

¹ Italics are mine. The guarded way in which the passage is used would seem to indicate suspicion. It does not appear in the Republican Campaign Handbooks of 1908 and of 1912.

² Congressional Record, 58 Cong., 2 Session, appendix, p. 246.

same sum of \$20. It may be that the campaign book version of 1904 was taken from McCleary's speech.

In 1910 the phrase appears conspicuously in a booklet entitled *Story of a Tariff*, published by the American Protective Tariff League, — the organization which publishes the *American Economist* also. This booklet lauds the tariff of 1909 as "the best tariff bill (*sic*) the Republican party ever passed," and gives a quantity of extracts from speeches on that measure. On the inside cover page there is printed in large type "Lincoln's Tariff Creed," in these words: —

"Secretary Stanton once asked Abraham Lincoln what he thought of a Protective Tariff. Mr. Lincoln replied: 'I don't know much about the Tariff, but I do know that if my wife buys her cloak in America, we get the money and the cloak, and that American labor is paid for producing it; if she buys her cloak abroad, we get only the cloak, the other country gets the money, and foreign labor receives the benefit.'"

It will be observed that this is somewhat enriched. American labor and foreign labor are smuggled in; and not only is the wife introduced, but Secretary Stanton also.¹

Not the least interesting episode in the history of the phrase is its voyage across the water and subsequent return to the United States. In 1908, the *American Economist* reports that a London correspondent has written: —

"An interesting development has been the appeal to Abraham Lincoln . . . as the final authority in an English fiscal controversy. . . . A number of Unionist papers closed the controversy simultaneously by quoting the following extract from a speech made by Lincoln shortly before his death: 'The problem seems to me a simple one. If we adopt Free Trade it means that we import our goods, in which case the foreigner will have our money and the work, and we his goods. If, however, we adopt a system of Protection, or a sys-

¹ In response to an inquiry, Mr. W. F. Wakeman, Secretary of the American Protective Tariff League, wrote me on June 28, 1914: "About five years ago I took up this subject of what Lincoln really did say on the Tariff Question and found that the extract as printed is correct. I consulted the family and every possible authority. I will try to run over the original correspondence shortly and give you additional information if desired." But the information, tho asked for, has not been supplied. Mr. Wakeman was Secretary of the League in 1894, and has been so ever since, except in 1900-1901, when he was Appraiser in New York.

tem of safeguarding our industries and our working classes, thereby manufacturing the goods ourselves, the result will be that we shall have the goods, the money, and the employment.' "

It will be observed that here Lincoln is supposed to have made the remark shortly before his death; whereas on its emergence it was supposed to have been made in his first speech.

Very recently, the English "tariff reformers" have utilized it again. They distributed (apparently in the course of 1913) a post card bearing within an ornamental scroll the following printed text: —

"I do not know much about the tariff, but I do know this much: when we buy goods abroad, we get the goods, and the foreigner gets the money: when we buy goods made at home, we get both the goods and the money." — ABRAHAM LINCOLN.

This naturally led to attack by free traders, in the columns of the *Manchester Guardian*. The *Guardian* in turn made its way to this country, and thereupon our loyal protectionists were led to retort that this shallow newspaper "in an unguarded moment recently allowed its finespun theory of free trade to come into direct conflict with the protectionist common sense of Abraham Lincoln."¹

Finally, the phrase has descended to base uses indeed. In recent issues of New York newspapers, a brand of shoes is advertised as "made from American materials, with home labor and by home capital," and then follows the precise passage quoted a moment ago from the *Story of a Tariff* of 1910, with the interpolations about American labor and foreign labor, and the reference to Secretary Stanton. The advertisement, however, seems not to have been found advantageous. The advertiser was overwhelmed by a host of inquiries, and made a public reply in which he withdrew

¹ See the Textile Record (Boston), July, 1913. I have been able to secure little information about the British episode. The Literary Secretary of the Tariff Reform League writes me: "We have no post-card containing the quotation from Lincoln, nor to the best of my knowledge have we ever issued such a post-card. . . . The quotation is of course well known to us, and it is quite possible we may have referred to it in our 'Monthly Notes,' though not in any recent years." Another correspondent in England suggests that a branch of the League may have circulated the card.

behind the shelter of the Protective League and its publications; and he refrained from continuing the advertisement.¹

It seems certain that the phrase is apocryphal. There is no evidence that Lincoln ever used it. Further search may show just how it originated. Possibly the claptrap about the "goods and the money" was invented before it was foisted on Lincoln; possibly it was ascribed to him at an earlier date than the first here noted (1894). By dint of repetition it has come to be associated with Lincoln almost as much as the cherry tree is associated with Washington. So crude is the reasoning (if such it can be called), so vulgarly fallacious is the antithesis, that we must hope that it will cease to be invested with the sanction of a venerated name.²

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¹ The advertisement appeared in New York in the *Journal of Commerce* and the *Times*, May, 1914; perhaps in other newspapers also. The advertiser's answer to inquiries was in the *Times* of May 18.

² Since this note was prepared, my attention has been called to a letter of Mr. Horace White's in the *New York Evening Post* of April 10, 1914. Mr. White points out that nothing like the oft-cited passage is to be found in Lincoln's writings, and pungently concludes: "my reason for thinking that Lincoln never said this is that he was not a fool."

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